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General Article

EMESIS IN THE DOG AND CAT*

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I have chosen as my subject to-day, that very distressing symptom, vomiting, as it is of vital importance in every-day practice. Moreover, it arises from such a multitude of causes that a practitioner needs to be exceedingly careful in arriving at a diagnosis. Everyone knows with what ease a dog or cat can vomit; we know they can perform the act voluntarily, and if they wish to be rid of a dose of medicine or of food which has been given them, they can easily bring it up and feel none the worse for the experience. On the other hand, vomiting may be caused by direct or by reflex irritation. Good examples of vomiting by direct irritation are those resulting from the eating of grass, the swallowing of ordinary washing soda or other emetic chemicals, foreign bodies, or corrosive poisons and actual inflammation of the gastric mucosa.

I believe that one of the reasons (if not the chief reason) why a dog can vomit at will is the fact that its pyloric orifice is very narrow, and it is said by anatomists to be usually closed. Contraction of the muscular coats of the stomach would thereby drive the contents through the cardiac orifice rather than through the pyloric. In the horse the pylorus is dilated and should the stomach walls contract violently the contents of the organ are driven into the duodenum. It seems that emesis is essentially aided by contractions of the diaphragm and of the abdominal muscles, and by dilation of the cardiac orifice whilst the pylorus is constricted.

In addition to the already mentioned causes, emesis may be induced by the stimulation resulting from irritation of the larynx, lungs or œsophagus, or following severe coughing; by diseases or irritation of the brain and ears; by the presence of urea in the blood (as in uræmia), bile (as in biliousness), or toxins absorbed from the bowel in constipation and other conditions; and by reflex irritation arising from some distant organ such as inflammation of the kidneys, uterus, bowel or the peritoneum, etc.

TRAVELLING.—Dogs are often much upset by journeys in cars or trains, especially if they are unaccustomed to the subtle motions of these vehicles. The exciting cause then is an upset of balance which is closely associated with movements of the fluids within the semi-circular canals of the ear. I have often found, when dogs ride in my car, that if I can contrive to allow them to see the road, or in other words, to see fixed objects, sickness is avoided. If they are fastened near the floor of the car and are subjected to unexpected swerving, starting and stopping, they become dizzy and almost invariably vomit. One is not infrequently asked to advise clients upon this point, and the best that one can tell them is to refrain from feeding the dog for several hours before the journey begins, and one hour before the journey, to give about 5 grains of anæsthesin in capsule, or 15 grains of chloretone. The dog should also be allowed to see out.

From the brief outline just given of some of the possible causes of sickness, one can plainly see that failure at first to ascertain its cause in a given case might reasonably be excused. One can appreciate, too, that the diagnosis of gastritis, so glibly and frequently advanced by unqualified people whenever a vomiting dog is presented, is one which should be regarded usually with some doubt or, at least, reservation.

Vomited material may take on various colours in different circumstances; thus, it may be red as a result of admixture with fresh blood thereby indicating perhaps injury by a foreign body, Stuttgart disease, or corrosive poisoning; it may be green from the consumption of grass or copper sulphate; violet from the presence of certain drugs; yellow or greenish-yellow from admixture with bile; or dark brown in consequence of the presence of stale blood emanating possibly from the duodenum; and lastly, it may be colourless when only slimy gastric mucus is voided. When a dog is suffering from impaction of the bowel, especially if of long standing, it may vomit fæcal material. It is well always to ascertain the odour of vomited matter, as occasionally a clue can be obtained regarding the cause. This is notably true in the case of phosphorus, carbolic and iodoform.

The vomiting centre is situated on the floor

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of the fourth ventricle, and such emetics as ipecacuanha, apomorphine, nicotine and tartar emetic excite vomiting by acting upon this centre *via* the blood stream. Obviously, other impulses can reach this brain centre, *via* the nerves, from distant abdominal organs when these are diseased. Poisonous substances generated within the body, such as the toxins involved in auto-toxæmia, uræmia, etc., may all be conveyed by the blood to the brain and induce more or less severe emesis.

It is one of the commonest experiences in every-day practice to be presented with a dog or cat suffering from persistent vomiting, the cause of which is quite obscure. If it has existed for a few days its effects will be very obvious, for there are few symptoms more distressing or more depressing than continuous sickness. A dog so suffering may be found in a semi-collapsed state, that is—cold about the extremities, exceedingly depressed, with a subnormal temperature, pale mucous membranes and a thin, rapid pulse. When such a case is encountered it is certainly time to take energetic measures, as the next thing which happens, only too frequently, is death. It is absolutely essential to ascertain the cause of the vomiting, as upon *that* depends the cure.

Gastritis.—It may be very tempting to jump to the conclusion that the case is one of gastritis. Frequently one may be right; but just as frequently one is wrong. One wants to obtain from the owner a clear history of the case, such as how long vomition has existed; did it follow a bath or getting wet in the street; is there an increased thirst; has the dog swallowed a foreign body; what is the colour and smell of the vomicus; does vomiting occur frequently throughout the day, only after meals, or only in the morning? The replies should be written down and be supplemented by the results of one's examination of the patient. All this information, taken together, and considered carefully, will often enable a veterinary surgeon to arrive at a correct diagnosis. One should examine the ears for any sign of ulceration or parasites; the head for evidence of blows or other injury; the abdomen for tenderness which may be evinced if the bowels are palpated, or if the stomach itself is pressed upon; or for evidence of pain in the lumbar region if subjected to pressure; for temperature, and any other symptom which might point to disease of some unsuspected organ or part. The gastric mucus might be tested with litmus for excessive or diminished acidity. The urine *must* be tested for albumen and for casts, also for bile.

I believe that the most diagnostic symptoms of simple gastritis are the craving for cold water, a disposition to stretch out on a cold floor, and sometimes the rejection of food almost as soon as it has been swallowed. All these symptoms point clearly to the inflamed irritable condition of the stomach itself. There is usually no more than one extra degree of temperature, and the breath may be very malodorous.

Nephritis.—This condition is probably more common in dogs than is generally realised, and in every case of obscure vomiting one's first procedure should be to examine the patient's urine for albumen. Do not mistake the presence of phosphates for albumen, and remember that only a small percentage of the latter may be present, so that the tested urine, when compared with a control tube of urine, may not show a very marked difference. Both tubes should be viewed in front of a sheet of black paper. For the discovery of renal cells and casts, the urine should first be centrifuged; and I think the average practitioner would find it better in every way to submit urine samples to a pathologist if the microscope has to be used.

The outstanding symptoms of acute nephritis are a straddling, stiff gait with the hind legs, tenderness over the loins, partial suppression of the urine, albuminuria, persistent vomiting, rapid pulse and possibly a subnormal temperature. In bad cases the alarming symptoms of uræmia, should this complication arise, will cloak all other symptoms and might temporarily put one off the track. I have a patient on my books now which periodically has violent attacks of uræmia, arising from Bright's disease, the symptoms being convulsions, loss of balance and extreme nervousness. Merely to handle the dog sets it off into paroxysms, and yet in this particular case it has never lost consciousness. Anuria has been marked, and this is, of course, the reason why uræmic poisoning occurs. In chronic nephritis, which is so common among dogs (especially old ones), one may notice little to indicate that the dog is ailing, except perhaps one fairly constant symptom and that is "early morning sickness." It is not uncommon for clients to complain that the sickness of their animals occurs only in the morning, and I certainly have found that in many such cases the primary lesion has implicated some distant organ rather than the stomach itself. Metritis also causes early morning sickness, though in severe cases the vomiting probably goes on all day. In chronic nephritis there may be a marked polyuria, albuminuria, œdema, capricious appetite, paresis of the hind limbs and a great thirst. The latter symptom must not be mistaken for the thirst associated with gastritis and should be distinguished from it by the presence of other nephritic symptoms and in particular by albuminuria, and other characters of the urine associated with Bright's disease.

Metritis.—In acute metritis, vomiting and

retching are common symptoms and in one's quest of a diagnosis it will be helpful to know whether a bitch has recently whelped, and to note whether there is a vulval discharge, accompanied by a continual licking of the part. Palpation of the abdomen will prove whether any tenderness is evinced when the womb is pressed upon. This would certainly be the case in the acute type, and there would also be a rise of temperature up to about 104° or 105°. It is useless to go over in this paper all the concomitant symptoms presented in a case of metritis, as I desire only to remind the practitioner to be watchful for any clue pointing to this disease, when presented with a vomiting dog. In cases of pyometra the cervix may be closed or slightly open. In the latter case there will be a diagnostic discharge, and in the former there will be a discernible distension of the abdomen because the pus in the womb—having no means of escape—continues to increase in amount, and often renders the womb easy of detection through the abdominal wall. Dogs will sometimes resist all efforts of the surgeon to palpate the abdomen, principally by tensing up the abdominal muscles. To overcome this tenseness, one must not administer morphia if septic metritis is suspected, but must induce a relaxed state by giving nembutal, chloral or even chloroform.

Bowel Diseases.—Vomiting which arises from enteritis is not accompanied by excessive thirst, nor is food almost immediately rejected as would be the case in gastritis. There would be no vaginal discharge or suggestive history as in metritis, and no albuminuria as in nephritis.

Cats, for instance, which are so very commonly affected with enteritis, exhibit no particular thirst but they resolutely refuse food, become very depressed and sit motionless all day. They are frequently sick, the dejecta being ordinary frothy gastric mucus. In addition, there is usually a definite tenderness noticeable when one palpates the bowels. The temperature is not very diagnostic as, although it is usually around 104°, it may yet be only 102° or 103°. There is no diarrhœa with feline enteritis, though this is a prominent feature of colitis. If ever I have a healthy cat under my care and one day find it has vomited, I am at once apprehensive of the onset of enteritis and five times out of six I am right. In quite 70 per cent. of cats so attacked, death ensues within two days, unless some of Major Dalling's most effective serum can be administered at once.

I recently admitted six pedigree Siamese cats of considerable value to my hospital for treatment of mange. They were allotted a special isolated house, kept warm and well fed and ventilated. Suddenly, specific feline enteritis occurred among them, one after the other going down; in a day or two three were dead and the other three ill. I managed then to secure some serum from Major Dalling and gave each survivor 5 c.c. daily for three days. Only one more cat died, the other two recovering—but without the serum I know I should have lost all. It may interest you to know that Major Dalling has elaborated a very effective preventive vaccine against enteritis in cats, though it is not yet on the market. So far he has not evolved any preventive of distemper in cats, which fact proves beyond a shadow of doubt that enteritis and distemper in cats are not one and the same disease, as so many veterinarians have believed. I never believed, from the very first, that they were, as, clinically, the two diseases are absolutely distinct.

A dog with *inflammation of the bowels* often exhibits more definite signs of abdominal pain than does a cat, such as crying out, great restlessness, contortions and groaning. Motions passed (if any) are coated with mucus and may be blood-stained. Vomiting also occurs. Similar symptoms may arise from *intussusception* and in all cases one should carefully search the abdominal cavity for the so-called "sausage-shaped mass." It is not, however, always detected, but may be revealed by X-ray photographs taken at intervals after an opaque meal. The passage of blood *per rectum*, and rectal prolapse not infrequently accompany intussusception, especially in puppies.

The presence of *foreign bodies* in the bowel will cause intermittent vomiting, and they may be detected by palpation or by radiography. In any case of bowel obstruction, whether it be due to intussusception, fæcal impaction, foreign body or volvulus, the patient is quite likely to vomit fæcal matter, and should this occur one has a valuable clue to the nature of its cause.

In the last year or two I have had two or three cases of *pyloric stenosis* in the dog, and this is a certain cause of persistent vomiting. The first case was in a bull terrier and sickness went on intermittently for about three months, the dog meanwhile being gradually reduced to a mere skeleton. Nothing was left undone in attempting a diagnosis and I had two other veterinarians to see the dog. Eventually the owner had it destroyed and I found the pylorus so tightly constricted that I could not force the fine point of a pencil through it. If the pylorus was in the same condition during life, it is easy to understand why so much of the food consumed was returned. No other lesion whatever was found on *post-mortem* to account for the illness. Some of my colleagues thought that the constriction occurred only after death, whilst others thought it might have occurred occasionally during life as a result of some

nervous derangement. Believing that the dog's condition might have been of nervous origin, I prescribed a course of nerve sedatives and certainly there was, for a time, marked improvement. Nothing, however, effected a real cure. A curious symptom in that particular animal was the way it made sucking noises with its mouth, licked its lips, and continuously dribbled long strings of tenacious, sour gastric mucus and saliva.

Only in one other disease have I encountered this symptom so much in evidence and that was a case of acute enteritis involving the whole of the bowels.

After I had published an account of this pyloric stenosis case, other members wrote to *The Veterinary Record* upon the same subject, and one described a method of operation for its relief. Strangely enough, none of the standard text-books on canine diseases makes any mention of the condition.

Poisoning.—Owners of vomiting dogs generally believe that their dogs have been poisoned and may possibly mislead one by such assertions. Sickness arising from poisons, however, is usually accompanied by blood-stained evacuations from the bowel, the vomit in some cases being also blood-stained. At any rate, this would be true of the corrosive poisons.

We must remember that the poisons to which the dog can obtain access, are usually rather limited to those generally incorporated in vermin killers, or in skin dressings. Thus the chief poisons to suspect are arsenic, strychnine, oleum picis and phosphorus. Arsenic sets up a violent gastro-enteritis with bloody diarrhœa and vomiting, great weakness and dyspnœa. Strychnine does not cause vomiting, so far as my own experience goes, but it sets up typical tetanic and clonic spasms and opisthotonos.

Tar and carbolic preparations cause sickness and diarrhœa, abdominal tenderness, weakness, paralysis, and may cause a green staining of the urine.

Phosphorus sets up intense and continuous vomiting, the material vomited smelling of phosphorus and being luminous in the dark. The victim is very restless, in great pain, and salivates freely. In a more chronic case the mucous membranes assume a yellowish colour, and the motions become blood-stained. The jaundiced condition should arouse one's suspicions of phosphorus poisoning.

Poisoning does not often cause a rise of temperature, but in some cases it may set up all the symptoms which have been previously mentioned as characteristic of gastritis. Thus, in investigating obscure sickness, one has to go carefully into every detail, and attempt to arrive at one's diagnosis by a process of elimination.

Foreign Body.—Foreign bodies lodged in various situations are fairly certain causes of vomiting. For instance, needles, splinters of wood and bits of wire may become embedded in or under the tongue and give rise to retching—if not actual vomiting. But there are also other movements which should afford some clue, such as pawing at the mouth, chewing, swallowing and salivating. As some of these small objects are often not at all easy to see, a gag should be inserted and one should then run the finger all over the tongue. Sharp points or hard areas can thus often be detected.

If a foreign body is lodged in the œsophagus the effect is to cause swallowed food immediately to return. The food reaches the obstruction and, becoming arrested, it at once returns. The passage of a probang should indicate the presence and position of a foreign body. On the other hand, sometimes the foreign body is of such a shape, or assumes such an angle in the gullet, that it permits food and drink to pass. Even a probang passes, but the dog continues to retch or actually vomit, and the absence of every other kind of symptom, combined with curious undulating movements of the neck, etc., may impel one still to suspect the presence of a foreign body. An X-ray photo will certainly reveal dense bodies, but might not show gristle. Thus, if the latter is suspected, the radiologist must administer an opaque meal and take a skiagraph immediately afterwards. If any of the meal is held up in the œsophagus, one may be tolerably sure that some translucent body is lodged there. It is curious how easily a flexible probang can, and often does, pass by foreign bodies in the œsophagus, especially when the body is a needle and cotton, or fish-bone, and I strongly advise you to make use of X-ray photography whenever you are in doubt. It must certainly be rather galling for a practitioner to be told by a client that another practitioner has discovered and removed an obstruction which should have been equally obvious or discoverable to the first examiner.

Peritonitis is a well-known cause of vomiting and one must suspect its occurrence if, soon after an operation involving the opening of the abdomen, vomiting commences. In my experience vomiting only accompanies the *acute* form, and death is the usual result. Chronic peritonitis, which sets up ascites, does not as a rule cause emesis. One must suspect peritonitis, too, if there has been rough instrumental interference during whelping, for it is not unknown for breeders and other laymen to grasp with forceps what they believe to be the fœtus and at the same time tear a hole in the uterine wall. Peritonitis follows in an hour or two, heralded by severe vomiting. At first the temperature rises high, perhaps 105° being registered, but it rapidly drops to subnormal, sick-

ness abates and the animal is in a state of collapse.

Ear Diseases.—Irritations of the middle and external ear must not be overlooked as a cause of emesis, though the latter does not occur unless there is a deep invasion of the external auditory canal, probably involving the tympanum. Cases have been recorded in which the drum has been ulcerated and perforated, with extension of inflammation into the Eustachian tube, even complicated by parietal abscess. In such serious cases, there may not only be vomiting, but delirium and convulsions. Gray has contended that simple otacariasis of the external ear will cause sickness, but I cannot remember having encountered such a case.

Brain Diseases.—Several pathological conditions of the brain or its coverings will excite vomiting, such as cerebral hæmorrhage, encephalitis, meningitis, etc. Where brain disturbance is suspected, it might be advisable to admit the patient into hospital so that it can be under observation.

I have spent a great deal of time discussing the causes of vomiting, and yet I am aware that I may have missed out several, and realise that I have but touched the fringe of this important subject.

Remedies.—It may be of some interest to the general practitioner if I briefly allude to various remedies or methods of abating the trouble. Let us assume that the sickness arises from gastric catarrh; we may then administer milk of magnesia in which has been suspended an appropriately large dose of carbonate of bismuth, and a small dose of bicarbonate of soda.

Grey powder, being tasteless, is very useful as a laxative, the evacuation of the bowels being an essential and primary step in overcoming flatulence and indigestion.

Chloretone has been found excellent for abating severe vomiting, and in some distressing cases I add about 2 or 3 grains of anæsthesin to each chloretone capsule. This drug very effectually anæsthetises the stomach lining but it *must* be given in a capsule, as, if it comes in contact with the mouth, all sense of taste is entirely lost and the animal will not feed. The dog may be allowed to lick ice instead of drinking water, but if water is withheld (as to a large extent it should be) it is essential that the dog shall be in some way compensated for the loss of water which continually goes on through vomiting. This is accomplished by injecting normal saline solution subcutaneously in amounts of about half to one pint at a time. Glucose may be added to this injection as food for the animal. Hot water bottles to the pit of the stomach help to relieve sickness, as also does the administration of brandy in water.

So far as food is concerned, it is best to give no solids for 24 hours or more, relying for nutriment upon white of egg in a little water. This is more often retained by an irritable stomach than whole eggs beaten in milk. If the gastric secretion is excessively acid, milk and lime water is a useful drink. Barley water is better than plain tap water. Later on Benger's Food may be given, and as for solids I favour finely minced raw beef without fat or gristle; or boiled white fish. Well-cooked tripe or brains are tasty invalid foods for this condition which demand little in the way of digestive effort, and being perhaps unusual, are often consumed by a fastidious dog with avidity. Dogs with gastritis must be kept at rest, warm and dry, and the bowels kept moving by enemas.

All surgical conditions causing vomiting obviously must be dealt with surgically, as removal of the cause abolishes the effects.

Nephritis is not so easy to treat successfully, but the following mixture has been found very useful indeed:—

Bism. Carb. and Sodæ Bic., aa gr. x
Tr. Buchu and Tr. Gent. Co., aa m. x
Aqua ad. m. cxx. t.d.s.

Permissible foodstuffs include glucose in water, barley water or milk, fat, butter, milky puddings, Virol, condensed milk and cod-liver oil; whilst all flesh and eggs should be withheld. Diuretics which irritate or stimulate the kidneys are also contra-indicated, but the elimination of waste products should be increased by giving the patient hot baths, by administering pilocarpine to increase salivation, and by opening the bowels.

Milk may be mixed with soda water or with ice, both of which sometimes act as effective antemetics. Whey is very beneficial in cases of weak digestion or gastritis, and is made by heating a pint of milk to about body temperature and adding a teaspoonful of essence of rennet. Break up the curds and strain off the whey through muslin.

It may happen, of course, that the administration of food by the mouth becomes impossible or undesirable owing to excessive weakness, sore mouth or throat, poor digestion or vomiting, when recourse must be had to rectal feeding by clysters or suppositories. Subcutaneous injections of glucose in normal saline would also be exceedingly useful.

Discussion

Mr. J. Gibson, who opened the discussion, having thanked Major Kirk for his paper, said that the essayist had given them a great number of diseases in which vomiting was a symptom. In diagnosing a cause of vomiting one had to depend a great deal on the history of the case. In gastritis, and when due to intestinal trouble, vomiting was typical, but vomiting occurred from a variety of causes, as had been pointed out.

X-rays were a great help to the practitioner and would be certainly much more used if the method were not so expensive: it could often set one's mind at rest over a puzzling case. He expected that vomiting from irritation of the semi-circular canals was similar to the condition known as sea-sickness.

He found vomiting a prominent symptom in uterine conditions in the bitch. Damage to the uterus caused it and he looked upon it as a grave symptom.

With regard to chloretone, he found this a very useful agent, but generally used from 5 to 10 grains only, while he prescribed larger doses of the other drugs, such as magnesium carbonate. The essayist had not advocated water, but he personally believed in giving it and withholding all solid food. He found enemas useful, also the giving of salines or glucose. Mr. Gibson concluded by observing that he was very interested in the specimens shown, but was disappointed that there was not a larger meeting that day.

Mr. T. M. Inglis expressed great interest in the cases brought forward by Major Kirk, and thanked the essayist for coming north: he was always glad to hear the latest from the south. Mention had been made of the application of X-rays in diagnosis and, although the reference was rather wide of the subject before them, perhaps he might be allowed to say that he believed X-rays would be very useful in disputes over soundness in horses. In a case many years ago, one side said a horse under dispute had side-bone, and the other were equally confident that it had not. Some years later this animal died and it was found that side-bone did not exist. In a case like that the employment of X-rays would be very useful but he had been given to understand that the plant would be rather expensive for the ordinary practitioner. Could Major Kirk give him an idea of the cost of an installation?

Mr. W. Jackson Young said that he was still very interested in the use of drugs and pointed out that medical practitioners used many that were not employed by veterinary surgeons.

With regard to terms, he had recently spent some time looking up standard works to see the use of ant-emetic or anti-emetic and found both spellings employed.

Clove oil was commonly used as an anti-emetic and it appeared to act in a similar way to carbolic acid.

He had been occupied in compiling a list of anti-emetics and gastric sedatives and found that acids and alkalis were included amongst a large number of preparations.

During a recent trip to America he encountered a "shot gun" prescription for allaying vomiting in dogs and cats. Its ingredients were bismuth carbonate, cerium oxalate, carbolic acid, hydrochloric acid and pepsin.

He had found strontium bromide useful in cases of vomiting. Sodium bicarbonate, which was seldom chemically pure as it contained traces of carbonate, had been prescribed by him extensively as a gastric sedative.

He recommended that the vomited material should be examined for parasites.

Mr. B. Philp joined with the previous speakers in thanking Major Hamilton Kirk for his very able and instructive paper. He regretted that he could make no claim to be a canine or feline specialist as his practice was a country one and most of his work was amongst the larger animals. It was exceedingly interesting to know that Major Hamilton Kirk's X-ray apparatus had been of such valuable assistance to him and others in the diagnosis of lameness, etc., and incidentally from a financial point of view. Referring to the withholding of water from patients for a considerable time after abdominal operations, Mr. Philp narrated a story relating to a duodenal operation which was performed by an Edinburgh Professor some years ago. This Professor was called to a farmer in the Border district and owing to the seriousness of the case the operation had to be performed immediately at his home, on the dining room table. After the operation the nurse in charge received strict instructions from the surgeon not to give the patient water but only to wet his lips for the first two days. Three days afterwards, however, the farmer had made such good progress that his medical adviser informed him he could have a glass of water, and when the patient heard this he remarked "Ye needna bother, Doctor, I've had a good drink out of the hot water bottle every day since my operation." This theory of withholding water had evidently now been exploded, as it was customary to allow a patient water almost immediately after an abdominal operation.

Mr. J. S. A. Spreull, in referring to the exhibit of cystic calculi, said that six years ago he had removed two cystic calculi, about the size of walnuts, from a bitch. The operation was successful and there had been no recurrence.

Mr. F. A. Gordon asked, with regard to the vomiting caused by irritation of the ear, if the essayist could explain the physiology?

The President, Major A. Spreull, said he had noticed in canine practice that the licking of the gleet from the prepuce often caused a bad attack of vomiting and he would like to hear Major Kirk's views on this condition. Prompted by the recital of the case of the six Siamese cats, which was very interesting, he desired to quote an interesting case, the subjects being two cats which he had from the south as boarders. The morning on which the owner called to take them away one of the cats started vomiting. The kennelman tried to persuade the owner to leave the cat, but it was taken away. Some days later word was received from the owner that the cat had died and her veterinary surgeon attributed the cause of death to acute gastritis or ptomaine poisoning from eating oysters, as he had found pearls in the cat's stomach. There was no possibility of the cat being fed on oysters whilst in the kennels, so a note was sent to the owner asking if there was fresh water pearling on the estate. A reply came back that there was no such thing and the case remained a mystery till some days later another cat in the kennels died. A *post-mortem* was made and the "pearls" were found. They turned out to be haddocks' eyes. Referring to chloretone, he found that 5 grains in a little spirit was a most excellent thing in preventing sea-sickness.

Mr. W. Nairn desired to offer his congratulations to Major Kirk for the very fine opening of a discussion on questions affecting our smaller patients, as these had to-day assumed greater importance than previously in our history. Not the least interesting part was the excellent exhibition of X-ray photography which Major Kirk had kindly brought with him, as it showed how useful radiology could be in clearing up many of our difficulties in diagnosis.

As Major Kirk had told them, many different conditions might produce vomiting in dogs. It was a very frequent symptom of uræmia in the dog, and he thought that Scotland deserved a little credit from the work which Professor Boddie had done. On the therapeutics of the condition he agreed generally with the views

expressed by the essayist, but he thought Major Kirk underrated the disturbing effect of grey powder on some canine stomachs, as frequently he (Mr. Nairn) had found emesis take place after its administration to healthy dogs. He agreed that in the early stages the withholding of food and the limiting of water were very important items in the treatment of these conditions.

He felt sure that the members would agree that they had enjoyed a most interesting and pleasant afternoon and they had had occasion to admire the energy and initiative of Major Kirk, who, as they could see, was always striving to extend the horizon of our knowledge.

The Reply

Major Kirk, in reply, said if one wanted to know the real meaning of hospitality one had to go to Scotland, and he thanked those present for the splendid reception they had given him.

In reply to Mr. Inglis, he said that so far as radiography was concerned in the diagnosis of lameness in the horse, nothing thicker than the limbs had to be penetrated. This it was quite possible to do with his own apparatus, and get good skiagraphs. He mentioned that Majors Pryer and Oxspring had used the X-rays with much success in the diagnosis of navicular disease. The cost of his own plant was £200 and besides doing his own work, he undertook radiography for other practitioners and also for neighbouring medical men. One could charge, in certain circumstances as much as £3 3s. for a radiograph. It was his custom to expose two or three films. When an animal was troublesome he usually gave morphine, as the least movement nullified the results. The cost of upkeep of the plant was negligible, but the tube would eventually give out, and its life depended on the number of exposures. Too-long exposures were hard on the tubes. He thought it would be a good idea for a Division of the N.V.M.A. to own a plant.

A dose of 15 grains of chloretone for a dog was not too much, but if it were to be continued for a matter of days, he would never think of giving so large a dose. He found it very toxic for cats, and even one grain might prove fatal. "Anæsthesin" for cats was quite safe. With regard to the administration of water in gastritis, he thought it best to inject it beneath the skin in the form of normal saline, or glucose-saline; or it might be given per rectum. If one wished to give it *per os*, very small quantities might be prescribed in the form of barley water, soda water or ice water. He found it a good plan to perform gastric lavage with normal saline solution. Tablets of glucose-saline could now be obtained which facilitated the preparation of solution for this purpose.

With the tail-apparatus exhibited he had no difficulty in keeping dressings on in eight cases out of ten.

Hydrochloric acid acted as an anti-emetic in cases where there was already a deficiency of the acid gastric secretion. He mentioned clove oil as a powerful local anæsthetic and said that it was efficient for allaying toothache, as also was carbolic acid. He found prussic acid useful against vomiting.

With regard to emesis caused by ear irritation, he imagined that the stimulation was conveyed to the vomiting centre in the fourth ventricle. Replying to the President, he was doubtful if it was the licking of the preputial gleet which caused vomiting, as the discharge was catarrhal and a sign of weakness; he thought that the cause of the gleet was responsible also for the vomiting. Dogs could lick abscesses and all sorts of filth and never vomit. Hydrarg. *cum* creta was the laxative commonly given to infants. He used it for cats in doses of 1 grain and it generally caused no sickness whatever. On the other hand, calomel might do so.

In conclusion, Major Kirk stated that he strongly deprecated the advice given by many veterinary surgeons with regard to the peremptory destruction of cats and dogs when their ailments appeared obscure. They were only playing into the hands of quacks, and an effort should be made in every case to treat the animal, unless the condition was absolutely hopeless.

"Fistulous Withers and Poll-Evil: Equine and Bovine Onchocerciasis Compared, with an Account of the Life-histories of the Parasites Concerned"*

Central Division, N.V.M.A. Discussion of Paper by Mr. J. S. Steward, f.r.c.v.s., d.v.s.m.†

Fistulous Withers and Poll-Evil due to Brucella Abortus

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Ministry of Agriculture and Fisheries

In opening the discussion on the excellent paper, so fully illustrated by the very interesting films and slides, which Mr. Steward has presented this evening, I wish to congratulate him on a splendid piece of research work. He has contributed valuable information, not only to the veterinary profession, but to biological science.

The ætiology of the conditions known as fistulous withers and poll-evil has, for many years, been the cause of much controversy. Trauma and pyogenic bacteria have been most frequently incriminated. In addition studies of abnormalities of the ligamentum nuchæ of the horse have revealed the fact, as Mr. Steward has so ably shown, that *Onchocerca cervicalis* is very often associated with these conditions. It would be interesting to know, however, with what frequency this worm is to be found in the ligaments and skin of normal horses.

Bacteriological examinations of fluid from the abscesses have also shown that *Brucella abortus* alone or accompanied by other organisms is not uncommonly present in such lesions. It is with reference to the association of *Brucella abortus* with cases of fistulous withers and poll-evil that I intend to deal this evening.

During the last three years I have examined at the Ministry's laboratory 85 samples of material from unopened cases of fistulous withers and poll-evil in horses. From 68 (approximately 80 per cent.) of these it was possible to isolate

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† Meeting held at the Conway Hall, Red Lion Square, W.C.1, January 2nd, 1936.

Brucella abortus, either by direct culture or by guinea-pig inoculation. In most cases the organism was in pure culture.

Of the 85 samples, 73 were from fistulous withers, eight from poll-evil and four from horses suffering from both conditions. Sixty, or 82 per cent., of the withers samples; four, or 50 per cent., of the poll samples and all of those from cases of both fistulous withers and poll-evil were positive to *Brucella abortus*.

The appearance of the abscess contents from positive cases is fairly characteristic, being a reddish-yellow or amber-coloured glutinous fluid containing whitish-yellow flakes or shreds (sometimes resembling grains of rice). Two specimens were of particular interest, (1) a typical sample of abscess contents from which *Br. abortus* was recovered also contained a male *Onchocerca cervicalis*, and (2) a piece of adventitious tissue from a withers lesion, forwarded as suspicious of worm infestation, proved negative for *Onchocerca cervicalis* (even after digestion) but positive to *Br. abortus* on guinea-pig inoculation.

The ages of the lesions from which the *Br. abortus* was isolated are of interest as Mr. Steward has suggested that the organism may only become associated after the lesion has been in existence for some time. In one case the lesion was under one week old; in 26 cases between one week and one month; in 18 cases between one and three months; in 14 cases between three and six months; in three cases between six months and one year; and in two cases over one year. In four cases the age was unknown.

The titres of the abscess fluid from positive cases—one 1 in 20; one 1 in 40; six 1 in 80; 16 1 in 160; 16 1 in 320; 17 1 in 640; ten 1 in 1,280—are also worthy of note, as in one instance the reaction was as low as 1 in 20 and in another it was 1 in 40. Mr. Steward has stated that the titre of the abscess fluid from one of his cases was higher than the titre of the blood from the same animal. I would mention that this is not uncommon, as of all the cases from which both abscess material and blood were received the agglutination reaction of the blood only exceeded that of the fluid from the lesion on four occasions.

Particulars of 80 horses from which material was forwarded show that 56 were draught or farm horses, 13 were cobs or vanners, three were Suffolks, three were hunters, four were ponies, and one was a thoroughbred. Older animals appear to be more frequently affected, as while only nine horses were under five years of age and 29 were between five and ten years, 42 were over ten years old. The susceptibility of mares and geldings seems to be about equal.

Contact with cattle is most significant, as of the 80 horses concerning which reports were received, 74 (or 92 per cent.) had been in contact with cattle, three had not been in contact and in three cases it was unknown if contact had taken place.

Cattle were infected with contagious abortion on farms on which 56 of the affected horses were or had been grazing, and not infected on farms on which eight of the horses were kept. In 16 instances it was unknown if the disease was present or not.

Mr. Steward has said that the frequency with which nuchal disease occurs in farm horses may be explained by the association of these animals with the breeding places of *Culicoides nubeculosus* in the farm yard during the summer. I would suggest that a more likely explanation might be the contact with cattle at grass or in the farm yard throughout the year.

As a result of the number of positive samples received during the first few months of 1933, it was decided to try the effect of a dead vaccine prepared from strains of *Brucella abortus* isolated from cases of fistulous withers and poll-evil. Inoculation experiments were carried out on two laboratory horses which were negative for abortus agglutinins, and it was found that with the exception of a small swelling about the size of a walnut no reaction occurred to one inoculation.

Reports on the vaccination of 66 horses suffering from *unopened* lesions have been received. Of these, 43 (*i.e.*, 37 fistulous withers, four poll-evil and two fistulous withers and poll-evil), or 65 per cent., recovered, 16 having been operated on. Eight (*i.e.*, five fistulous withers, one poll-evil and two fistulous withers and poll-evil) showed no improvement. Six showed improvement, five showed improvement but died or were destroyed and four died from other causes. The number of cases operated on is approximate, as in some instances the swellings were simply incised to facilitate drainage; in others, the radical operation was performed and tissue removed.

In addition to the 85 horses from which abscess material was received, blood samples were examined from 91 horses suffering from *ruptured* withers or poll lesions (70 fistulous, 19 poll-evil and two both conditions). The agglutination reactions of these 91 were as follows: eight were negative; six reacted at 1 in 20; 15 at 1 in 40; 18 at 1 in 80; 14 at 1 in 160; 20 at 1 in 320; six at 1 in 640; three at 1 in 1,280 and one sample was hæmolysed when received. It will be seen from these figures that three-quarters of the sera examined gave titres between 1 in 40 and 1 in 320.

As in the previous series, farm or draught horses were very much in the majority, numbering 67 as compared with four cobs or vanners, two Suffolks, eight hunters, three ponies and two thoroughbreds. The age factor is again in evidence, as while only 14 horses were five years old or under, 33 were between the ages of five and ten and 39 were over ten years old. The

number of mares and geldings affected was respectively 48 and 42.

The significance of contact with cattle is quite as evident in this series, as in the previous one. Of the 84 cases reported on, 73 (or 87 per cent.) had been grazing or housed with cattle, two had not been in contact with cattle, two had not been in contact for six months and in seven cases it was unknown if contact with cattle had taken place. Cattle were infected with contagious abortion on the farms on which 55 of the horses were or had been grazing, and not infected on the farms on which 15 of the horses were kept. In 14 instances it was not known if disease was present or not.

Reports of the vaccine treatment of 68 horses in the second series were received, of which 52 (or 76 per cent.) recovered, 19 having been operated on; six showed no improvement; seven showed improvement; two were destroyed and one died from other causes.

Generally speaking, the simple uncontaminated lesions appear to respond fairly readily to vaccine inoculation, while those cases in which pyogenic organisms are present, or in which there are pieces of necrotic tissue, are very resistant and will probably only recover when the diseased tissue has been removed. Several veterinary surgeons who are expert operators in cases of fistulous withers and poll-evil have expressed the opinion that if vaccine is inoculated immediately after operating, the subsequent healing process is very considerably hastened.

A disagreeable feature of the vaccine is that it produces a fairly severe reaction in infected horses. This would seem to be in the nature of a reaction to infection, as in cases in which the vaccine was inoculated into horses showing no abortus agglutinins the reactions were negligible.

In conclusion, I would draw your attention particularly to the following points:—

Eighty per cent. of the material from unopened lesions, varying in age from under one week to over one year, contained *Brucella abortus*.

Ninety-two per cent. of the horses in the first series and

Eighty-seven per cent. of the horses in the second series had been in contact with cattle.

Sixty-five per cent. of the cases in the first series and

Seventy-six per cent. of the cases in the second series recovered as a result of the vaccine treatment with or without operation.

These figures would seem to indicate (1) that *Brucella abortus* is more frequently associated with cases of fistulous withers and poll-evil than is generally believed, (2) that a very high percentage of the affected horses have been in contact with cattle and (3) that a vaccine prepared from *Br. abortus* is reasonably effective in assisting the healing of these lesions.

How and why *Brucella abortus* becomes implanted at the poll or withers is at present a matter for conjecture. Mr. Steward has demonstrated that calcified and œdematous areas resulting from the presence of *Onchocerca cervicalis* frequently occur at these positions in the necks of *infested* horses. It is possible, therefore, that the irritation set up by the worms in the ligamentum nuchæ at the poll or withers may constitute a predilection seat for *Brucella abortus* in the horse.

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General Discussion

The general discussion on the paper presented by Mr. Steward and on Mr. Duff's supplementary contribution was opened by Captain J. C. Coleman, who said that he must congratulate the author of the paper upon the very exhaustive work that he had done in that matter, also Mr. Duff for the additional information he had given them.

He had only read the paper very quickly, he was somewhat ashamed to say, and perhaps that was why he found himself in something of a dilemma: he was rather perturbed in his mind as to whether the *Onchocerca cervicalis* and/or the *Brucella abortus* were the cause of the disease or whether their presence was more or less accidental: indeed he had not heard the essayist say that the disease was actually caused by those organisms although they might be present in the lesions.

He had felt in rather an honour that that paper should have been presented, after the few remarks he made at the meeting of that Society held in October, but he was afraid that he was not yet very satisfied that there had been much information given that was very valuable to them.

As to the Ministry's vaccine, he had used it on two occasions only, and he would now report further on his experiences in regard to the employment of that product in cases of fistulous withers. One case was injected on three occasions and on each there was a severe local reaction and profuse discharge—very fœtid and horrible-smelling material. The fistulous swelling certainly altered in character: whereas formerly it had been very hard and about as large as a peck measure, after the injections it began to get softer. Shortly after the last injection it became larger and contained a fluid. It was very tense and he wrote to the Ministry and asked them if it was wise to open it. Following the receipt of their reply, he did so, at the same time giving five injections of streptococcal-staphylococcal bacterin. The swelling began to extend right down the back and he had the horse destroyed. He could put the probe in for a distance of 16½ inches.

The other horse was a five-year-old. Both of these, however, were on farms very heavily infected with contagious abortion. This young horse certainly improved after the first injection of the Ministry's product and no appreciable reaction occurred at the site of inoculation. The swelling, which had been 14 inches in diameter and 3 inches in depth, went down to about 8 inches in diameter and 2 inches in depth and then burst. After the second injection the whole of the swelling disappeared. The swelling on the other side of the neck did not burst and that did not go down entirely. On the recommendation of the Ministry he gave this horse streptococcal-staphylococcal bacterin injections,

but no good result followed. About five weeks ago he saw that this horse was getting very much worse—the swellings were even larger than they were originally. He then was supplied by the Ministry with a second batch of *Brucella abortus* vaccine, which he used. On one side the swelling had now gone down to about 1 inch in thickness. On the other side, however, it came up to the size of two goose eggs and had pointed; he let out some thick inspissated pus. He was now injecting ordinary disinfectant and he was going to await the result of that procedure.

Continuing, Captain Coleman said that he believed that it had been suggested that the enlarged knees of cows had something to do with contagious abortion infection, and he wanted to ask Mr. Steward if such an infection might similarly have something to do with the swellings sometimes seen on the fetlocks of horses not known to have sustained any injury. One horse in his experience had such a swelling, which contained fluid, which appeared to be clear serum. He took the heroic measure of opening this swelling, liberating about 30 ounces of fluid, together with one piece of coagulated serum, approximately the size of a hen's egg. The swelling was now about half the size it was originally, but it had become very indurated. That horse had been on a farm where contagious abortion was present, but not just lately. In connection with surgical interference in cases of fistulous withers he must say that he had great success, followed by the application of Bipp and cleansing the wound with surgical spirit. In every case perfect healing had taken place, though a rather large scar had been left. In the old days he used to use copper sulphate and hydr. perchlor. with the same result, but, in this case, taking a very long time to heal. He would welcome any other method which did not necessitate surgical interference and which would effect a cure in a shorter time.

Mr. W. Perryman stated that he was sure that they were all extremely indebted to Mr. Steward for the most interesting demonstration they had had that evening. Personally he had read the account in *The Veterinary Record* very carefully and that recorded one of the most remarkable and progressive pieces of work standing to the credit of the veterinary profession in recent years. (Hear, hear.)

As an old member he was very keen on the traumatic origin of poll-evil and fistulous withers. Mr. Steward seemed to have demonstrated almost conclusively that the *Onchocerca cervicalis* was the chief cause of the bursal enlargements of the poll and withers. Mr. Duff appeared to have come to the conclusion that the *Brucella abortus* was primarily the main cause of the trouble. They had therefore to try and decide between the two, which was the chief cause. It seemed that *Brucella abortus* was prevalent in a great many animals and particularly in the horse: that was something of a revelation to him. The thing that occurred to him, however, was the remarkable fact that although poll-evil and fistulous withers were very prevalent in the horse in country districts, no one had mentioned having seen a case of either condition in the cow. If the *Brucella abortus* was the chief cause in the horse one would expect to see some demonstration of those conditions in the bovine species. For that reason, he would be very sceptical of that organism being a very potent factor in the causation of fistulous withers and poll-evil in horses.

Mr. Steward had given them literally a marvellous picture of the presence of the parasite in the ligamentum nuchæ and the poll. He had seen and treated a great many cases of poll-evil and fistulous withers but he never thought that he was handling worms. (Laughter.) He could understand that the infestation with worms might be fairly prevalent and many of the parasites be present for a considerable period without causing any injury to the region. There must be some other exciting cause in addition to the presence of the worms and he thought that traumatic injuries at the poll and withers were exciting causes. If the condition was entirely due to the presence of worms, why did they not affect the lamellar portion of the ligamentum nuchæ with the same kind of abscesses? However, he thought that he did accept Mr. Steward's statement as to the worms being an exciting cause and being very important, but he still thought that injury must play a very potent part in the origin of the disease itself. They must consider, in London particularly, that injury did take place, especially in years gone by, when they saw more cases of fistulous withers and poll evil than they did to-day. He used to attribute those conditions to horses bruising those parts. He had seen a great number of cases of bursal enlargement at the poll and similarly at the top of the withers. When he had been consulted about them he had said "Leave them alone," and invariably they would disappear. That might have been *Brucella abortus* infection. It was always a mystery to him how those cases originated.

Mr. Coleman had raised a very important point when he said that they saw bursal enlargement in other places and that they had always put it down to some injury, and he would like to ask either Mr. Steward or Mr. Duff if he thought that the *Brucella abortus* had any influence in the causation of any of those non-inflammatory swellings that they saw in other positions than the poll and withers in young animals.

Concluding, Mr. Perryman observed that they were greatly indebted to Mr. Steward: he had never felt more convinced about a very important matter having been advanced for the consideration of the profession than when he read Mr. Steward's paper. He did think it was wonderful the work that Mr. Steward had put in, especially in regard to the midges. If the deductions drawn by the essayist might not be such as they could all agree with, nevertheless his work was laying a foundation which would be a great help, not only in the elucidation of the disorders they were considering that day, but of many other obscure diseases.

A Member enquired of Mr. Steward, concerning the sections demonstrating the presence of microfilariæ in the cutis, whether they were taken from the skin of the abdomen or from the active fistula. He also enquired of Mr. Duff what information was available on the occurrence of *Brucella abortus* in cases of fistula.

Dr. A. W. Stableforth observed that the incidence of *Onchocerca cervicalis* or a microfilaria in normal horses was a point of importance. Did poll-evil or fistulous withers, at least in a serious form, only occur when infection with *Br. abortus* was also present, and, *vice versa*, did infection with *Br. abortus* only cause lesions when a focus of low resistance of the worm lesion already existed? Mr. Duff had told them that after the use of the Ministry's vaccine they had obtained 80 per cent. of cures. There were many in that room who were experienced in the treatment of poll-evil and fistulous withers and he was wondering what was the percentage of cures in unopened cases or opened

cases which had not been vaccinated: did it approximate 80 per cent?

Another point raised by Mr. Duff was contact with cattle as a possible factor of importance in the causation of fistulous withers and poll-evil due to infection with *Brucella abortus*. He (Dr. Stableforth) should have thought that probably the vast majority of horses, normal as well as infected, were, or had been, in contact with cattle and the proportion must be increasing tremendously with the decline in the number of town horses. Priestley had shown that the majority of horses were negative to Brucella tests.

Dr. J. McCunn thought that they must all realise, first of all, that a very large number of these cases must be due to injury; at one time he held the opinion that injury was probably the sole exciting cause, but after he had made himself acquainted with Mr. Steward and his work he had, much to his surprise, to revise that opinion, for he now realised that many cases must be due to the presence of the worm. Strange to say, every case that had been under his care since then had been positive to the *Onchocerca cervicalis*. He would quote them two instances.

In one case, three horses were involved. They were positive to *Onchocerca cervicalis*. There was a history of an old horse coming into that establishment. There was no doubt that this old horse was the carrier, as on that place they had never had such a thing as poll-evil until the advent of this horse. Mr. Steward and he paid a visit to that establishment and found that the three animals that were affected were all positive to the worm, as was also the old horse, and if his memory served him correctly, Mr. Steward got several positive portions of skin from amongst other in-contact animals.

At another farm three horses were affected with poll-evil. Only one of the animals, to his knowledge, was positive to the worm because the other two affected horses had not been tested. At first he thought they were purely cases of poll-evil arising from injury. There were a twelve-year-old mare, her seven-year-old son (which was the positive animal) and a seven- or eight-year-old cob in contact, on this farm. He had very little doubt that had they all been tested, they would have proved positive.

Many horses affected with poll-evil and fistulous withers were also positive to *Brucella abortus*, but, as Dr. Stableforth had said, horses lived in contact with cows and they knew very well that veterinary surgeons who were only in contact with cows for a very short time could become infected. He could not see any reason why horses should not become infected with *Brucella abortus* without the presence of the organism causing them any harm, as was seen in the case of many veterinarians whose blood gave a positive reaction. At the present time he would rather favour Mr. Steward's worm theory, because the last series of cases he had been in contact with had been rather dramatic.

He would impress upon anyone who was attempting surgical measures with either fistulous withers or poll-evil the desirability of making one's first operation a thorough one—it was surprising how much of a horse one could take away—(laughter): it paid to be severe. A short time ago he had a horse to operate upon for Captain Stow, and he was sure that if Captain Stow had seen it a few days afterwards there would have been a big row. He removed all the diseased tissue, including a large portion of the ligamentum nuchæ and a number of hard cysts. The case did very well. If it was decided to operate, let them go the "whole hog" the first time. There was no doubt that the mid-line method of operating was in most cases the best: it left less disfigurement afterwards and the horse was able to wear a bridle or a collar with a greater degree of comfort.

There was little more he could say other than to compliment both Mr. Steward and Mr. Duff—especially the former—on the wonderful work they had done. Mr. Steward had submitted himself to self-experimentation and they must wait for a period of from ten to twelve years to see if he had succeeded in infecting himself. Mr. Steward's work was, in his (Dr. McCunn's) opinion, the best piece of research work that had been carried out in the veterinary profession—at all events in his (the speaker's) time and probably in the time of most of the people present in that room. (Hear, hear.)

The President (Mr. J. F. Macdonald) having asked Dr. McCunn if he would care to reply to Mr. Steward's question as to the percentage of operative cases which recovered, Dr. McCunn said that all operative cases should recover if one adopted radical surgical measures, with the exception of those cases where there was bone complication. He was of the opinion that most of those cases were due to trauma and not to the worm.

Lieut.-Colonel H. Greenfield thought that they all ought to offer their heartiest thanks to the writer and to the opener for the very fine work they had done and to express their admiration of the real value it was to them. They had a disease which had been a great bugbear to them for centuries and of which the causation had never been tackled in that way.

He was afraid that his experience was not quite in accordance with that of his friend Dr. McCunn, in that, so far from having 100 per cent. success in the treatment of cases, he, and he thought most of those present, gave a rather poor prognosis of a bad case of fistulous withers, or a bad poll-evil. His own experience led him to believe that there had been a considerable change in the incidence of those diseases in recent years: he thought that lately they had seen far fewer cases of poll-evil and fistulous withers than in the past. He would like Mr. Steward to give his view on this: might not the change have arisen from the use of light harness and that of a breast collar? Such harness was not used with farm horses, in which the greater number of cases occurred. Farm horses, on the other hand, had heavy collars and harness—often ill-fitted, dirty and handed on from horse to horse—and the preponderance of the disease in them suggested this might be a factor in incidence.

He took it, from the reading of Mr. Steward's paper, that one was not to operate upon or interfere with a case which might be due to that worm. On the other hand, if there was infection, it was obviously the right policy to operate at once. He thought, therefore, that it was of the highest importance that, if Mr. Steward could give it to them, they should have the most definite line of differential diagnosis of the two diseases.

How far disease was purely due to accident, or how far accident was, as some would suggest, a part of the cause, would remain for elucidation. On the other hand, he thought they must all have had considerable experience of definite accidental cases in which the symptoms of poll-evil or fistulous withers never occurred. For instance, about 18 months ago he had a heavy dray horse that ran away in a railway yard and struck one of the big railway vans, breaking its atlas. He took away about

half the left wing of the atlas and the horse had been perfectly all right ever since. Surely there was a case which, if accident were really a major cause of poll-evil, should have been followed by such a condition, but it certainly was not.

Perhaps out of curiosity, he would like to know how Mr. Steward obtained the microfilariæ from the section of the horse's skin, for the diagnosis of the presence of the worm.

Dr. McCunn rose to point out that his reference to 100 per cent. operative successes was, as he had stated, exclusive of cases where bone was not involved; if bone was involved, "no."

Lieut.-Colonel Greenfield observed that, as he understood it from the paper, in connection with those cases in which he considered that poll-evil and fistulous withers arose from the presence of the worm or from *Brucella abortus* infection, the content of the abscesses was sanguineous and serous, whereas in ordinary practical experience, the abscesses in the cases they had opened were filled with thick pus.

Mr. J. W. McIntosh said that he was afraid he could add very little to the discussion. In his long experience he could only recall about eight or ten cases at the most in his lengthy supervision over a stud numbering at one time nearly 3,000. Therefore he could say that poll-evil and fistulous withers were not particularly common in town horses.

He thought many cases of injuries to the regions concerned were loosely described as poll-evil or fistulous withers but were, in fact, simple cases of injury which would clear up under proper treatment. In his limited experience, at any rate, he had no serious results, excepting in one case and in all cases there was history of injury.

Surgical interference should never be attempted excepting as a last resource and then one's prognosis would have to be very guarded, as under the best of surgery and subsequent treatment, results might be very disappointing as the time and the expense involved might easily exceed the animal's commercial value.

Captain R. J. Stow said that he also would like to add his quota of thanks to Mr. Steward and Mr. Duff: he did feel that they had given the Fellows a very great deal to think about.

Since he had been there that evening Dr. McCunn had mentioned the mare which he sent up to him a little while previously. That mare came off a farm where about ten years ago the man who had the farm then had a tremendous amount of abortion amongst his cows. The man who had the farm now told him that he had not had a cow abort during the last three years. He did not know whether that mare was positive to *Brucella abortus*. [Dr. McCunn: "Yes."] That, he felt, gave them a little food for thought—as to whether there was any chance of that mare affecting the cattle since they had no contagious abortion on the farm at the present moment. He knew that on a nearby farm there was contagious abortion and he would ask if Mr. Steward could give them any idea how a mare like that could become infected with the *Brucella abortus* since she was on a farm where there was no contagious abortion at the moment.

The President now rose to say that if there was no further discussion he might just observe that he had not seen very much of either of those conditions for many years, but it seemed to him that they were much more frequent in town practice in the days when parasitic mange was a common disease. That, of course, rather favoured the traumatic theory. Pre-War they used to have tremendous outbreaks of parasitic mange in London; now, of course, it was very rare, but in those earlier cases the conditions they were discussing were probably due to the fierce rubbing that a horse affected with mange would give his poll and withers, particularly, on the manger and manger supports. He thought that destruction of the mange parasites had had a great deal to do with the reduction of fistulous withers and poll-evil in London. With regard to the country he could say practically nothing.

The Replies

Mr. Duff, who was the first of the essayists to reply to the points raised in the discussion, said in reply to the first question, which referred to the presence of abortus agglutinins in normal horses, that he had not tested a large number of normal horse sera, but, of those which he had examined, the highest titre was 1 in 20. The majority were negative. One horse in Herefordshire which showed no lesion at the poll or withers reacted up to 1 in 1280. This animal was not normal, however, as on account of some pathological condition of the neck it was unable to feed from the ground.

With reference to Dr. Stableforth's question concerning the contact of affected horses with cattle, he thought that association with cattle was a very important factor, as 87 per cent of the horses in the first series and 92 per cent. of those in the second series had been in contact with cattle. As the large concentrations of horses were in towns one would have expected that if contact with cattle was of no account, town horses, which were more liable to injury, would have been more frequently affected than farm horses. This was not the case.

With regard to the vaccine treatment, he said that in the first series 65 per cent. of the inoculated horses recovered, 16 having been operated on: and 76 per cent. of those in the second series recovered, 19 having been operated on. He remarked that it had been mentioned that spontaneous recovery sometimes occurred in cases of fistulous withers and poll-evil. Even so, the percentage of recoveries after inoculation was much too high to be classed as spontaneous even if the number of cases operated on was not included.

Mr. Steward, in his reply, first of all thanked the Fellows very much for their kind reception. He would also like to thank the opener for his support: Mr. Duff's findings supported his own in some respect. He (Mr. Steward) had found evidence of *Brucella abortus* in about 69 per cent. of his cases. He had examined most cases both for *Brucella abortus* and the worm, because he thought that to look for *Brucella abortus* alone was insufficient: he thought the worm might be of primary importance and the *Brucella* and other organisms of secondary importance.

He had six cases in which *Brucella abortus* was present apparently alone. Diagnosis of the presence of *Onchocerca cervicalis* was dependent on one of two things: the finding of the adult worms in the ligamentum nuchæ or the finding of the microfilariæ in the skin. He did that by dissection in saline and examining the deposit on a slide.

He thought that in his cases the worm had been present in more cases (74 per cent.) than *Brucella abortus* and most of them had been diagnosed on the presence of the microfilariæ. He thought that probably 10 or 15 per cent. of worm infected cases had escaped his detection, because if the worms were dead or immature there would be no microfilariæ in the skin, so that possibly the percentage should be nearer 90.

He had been asked as to whether he thought

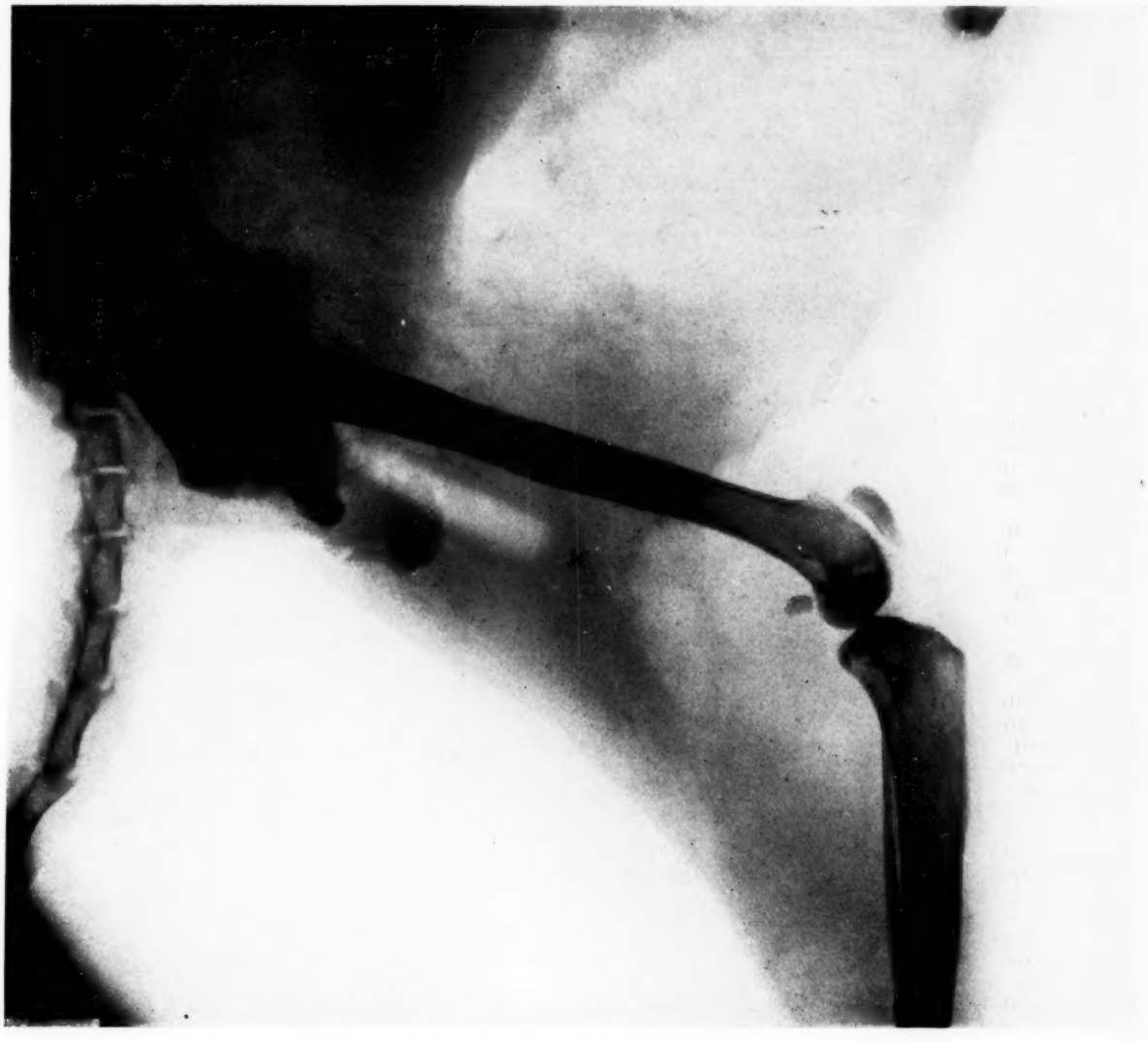

FIG. 1.
MEDIAL VIEW OF CAT'S LEFT THIGH. THE PALE STREAK RUNNING FROM X TOWARDS THE HIP IS A SINUS CAVITY. [*Radiograph by H. Kirk.*]

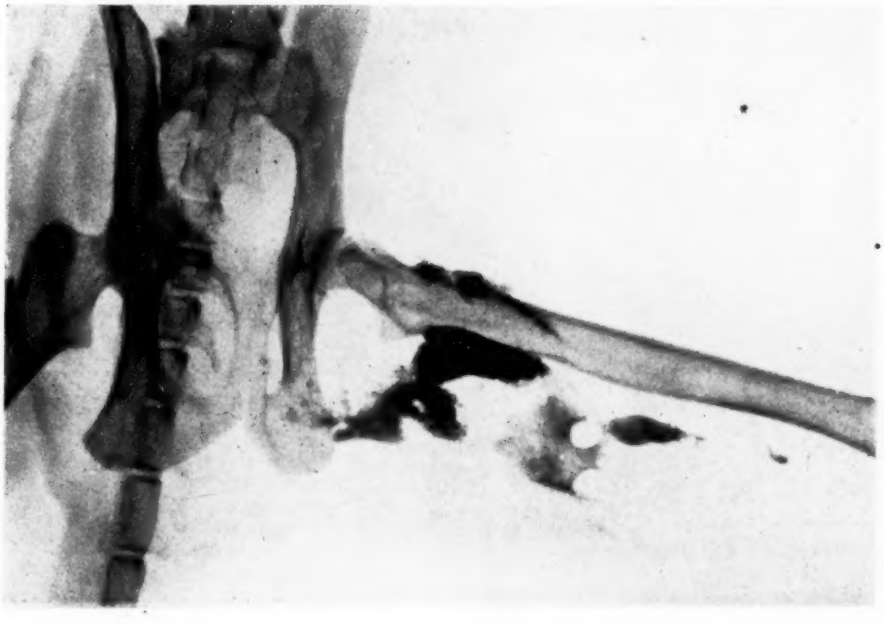

FIG. 2.
THE SAME LESION WITH LIPIODOL INJECTED.
[*Radiograph by H. Kirk.*]

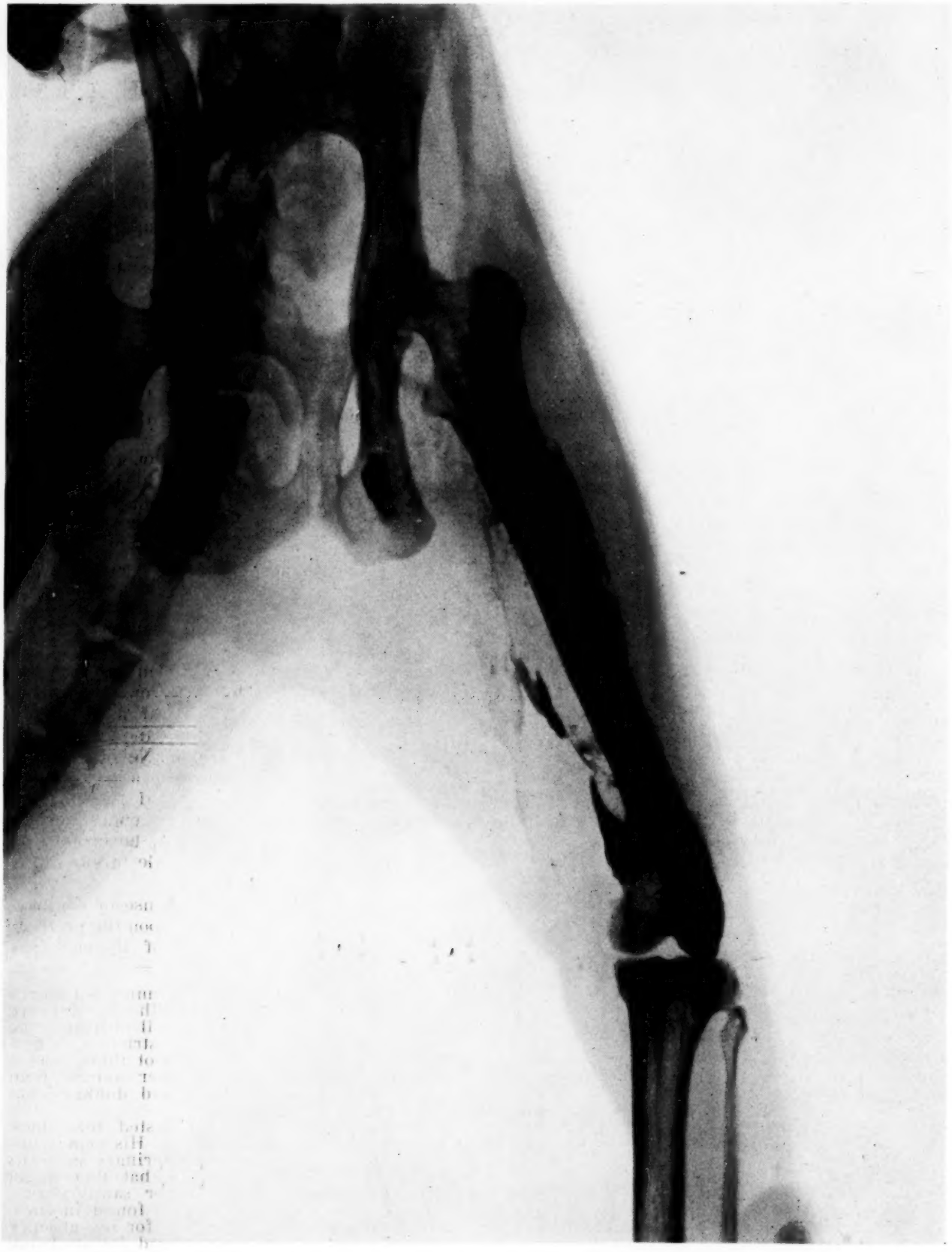

FIG. 3.
POSTERO-ANTERIOR PROJECTION OF CAT'S THIGH SHOWING HOW THE LIPIODOL HAD TRAVELLED FROM THE STIFLE ALMOST TO THE HIP.

[Radiograph by H. Kirk.]

that the worm was the actual cause of fistulous withers and poll-evil. It was impossible to say definitely until transmission of the worms had been carried out in large numbers.

Dr. Stableforth had suggested that it was of importance to find out what percentage of normal horses harboured the worm. This was not so, because disease due to parasites depended upon the number of worms present or upon their presence in a subject that was in a debilitated condition. He had found that quite a number of horses after recovery continued to harbour the parasite and had relapsed if they were overworked or were on a poor diet. Unless one actually made a *post-mortem* on infected horses one could not definitely say that the worm was absent, but one could be more or less certain about the presence or absence of *Brucella abortus* more easily. In the case mentioned by Mr. Duff he was able to establish the presence of the worms by finding the microfilariæ in the skin.

The titre of the fluid from the serous abscess was higher in agglutinating *Brucella abortus* than was the blood serum, probably because it was more concentrated than serum.

As to the greater prevalence of fistulous withers and poll-evil in farm horses, it must be remembered that many hunters and some thoroughbreds and ponies came in contact with cattle [and thus the *Br. abortus*] but the real point was that they [thoroughbreds, hunters and ponies] were not in contact with the habitat of the fly during the season (summer) when the fly was prevalent; consequently, one would not expect transmission of the worms to occur. The breeding-place of the fly was the farmyard and hunters usually did not come into contact with the manure yards in the summer. He thought that might explain, also, the relative rarity of the diseases in pit ponies and town horses.

Continuing, Mr. Steward said that he thought that the cases which recovered without treatment were probably those in which there was no secondary infection. With regard to choice of treatment, it was largely a matter of diagnosis. If there was no evidence of secondary infection or pus-formation he thought the best thing was to leave the horse alone.

As to why the disease should occur at the poll and the withers and its rarity in the cow, that was a particularly interesting point. He had one case of fistulous withers in a cow and he examined for microfilariæ which were present. When he made the *post-mortem*, he found that the worms occurred, not in the substance of the ligament as in the horse, but between the surfaces of the ligament. He thought, therefore, that the reason why cows did not get poll-evil and fistulous withers was that the worms were not to be found in the substance of the ligament and that in consequence there was no inflammatory reaction. He had not related his investigations in the cow because he had thought that to do so might add an element of confusion: people might think that the worms had caused the disease of the withers in the cow, whereas actually they had nothing to do with it.

Brucella abortus had, of course, been recorded as occurring in swellings of joints, etc., in horses without lesions at the poll or withers.

Mr. Perryman had asked him about the importance of trauma. He thought the reason why disease occurred at the poll and withers was that the worms seemed to like the fibrous tissue where the lamellar and funicular portions of the ligament joined. Cases due to injury were of quite a different type. They were generally subcutaneous abscesses and if they were opened they usually healed very rapidly.

He did not think that Dr. McCunn need worry about his (Mr. Steward's) health—he did not expect to suffer from poll-evil—because he believed the worm to be very strict in regard to its host specificity: he did not think that it would be infective to any other animal than the horse—possibly to mules and donkeys, but he did not know about that.

Colonel Greenfield had suggested that there were fewer cases than formerly. His experience was common to that of most veterinary surgeons and he (the speaker) thought that that might be due to the taking of greater sanitary precautions. The fly was normally found in rural habitats and that might account for the absence of the disease in large towns and for its being less common than formerly in London.

In reply to Captain Stow's enquiry, of course, horses that were affected with *Brucella abortus* would be a danger to cows, but how they got that infection it was impossible for anyone to say.

Clinical Communications

SINUS IN THE THIGH OF A CAT

HAMILTON KIRK, M.R.C.V.S.
London

The subject was a two-and-a-half-year-old, long-haired, neuter cat. I was called to the country to examine this animal in consequence of a discharging wound on the inner aspect of its left thigh. This was a remarkable case which had seemed to defy the best endeavours of five veterinary surgeons over a period of 18 months prior to my being called in consultation.

The brief history was that the cat had one day walked away into a neighbouring field and, within a few minutes, returned limping. In course of time (at the point X on Fig. 1) there appeared a small discharging hole, the entrance to a sinus which led upwards towards the hip.

A probe would penetrate straight in for about one-and-a-half inches, and it seemed, at first, necessary only to destroy the secreting membrane; but every kind of treatment adopted failed to arrest the mucoid discharge. When healing at the entrance had occasionally been effected, the secretion of fluid did not abate and the tissues would balloon out and eventually rupture.

Mild caustic injections into, and curetting of, the sinus, tried in my hospital for about three weeks, were ineffective. The cat had already been tested for tuberculosis and had been X-rayed with negative results. Nevertheless, I sent a swab of the discharge to a pathologist, but also with negative results. I twice radiographed the leg in a further endeavour to locate a foreign body. Nothing, however, was revealed except the slight pale area at X marking the sinus cavity.

It was then decided that the use of contrast agents might throw some light upon the problem and, accordingly, a quantity of lipiodol was

injected into the sinus under slight pressure. Skiagraph No. 2 was then taken, and it showed that the lipiodol had reached as far as the ischium, and also surrounded the femur.

A third radiograph was then taken from a postero-anterior direction (Fig. 3) and this indicated that the contrast agent had penetrated to the region of the stifle joint.

Evidently, then, a very complicated labyrinth of sinuses existed from one end of the thigh to the other, running in all directions. There still remained a slight conviction that some kind of foreign body (possibly translucent) might be present, and no other course of action than surgical operation seemed to remain.

Mr. Holmes, of the Department of Clinical Parasitology, Royal Veterinary College, very kindly lent assistance and the cat was anæsthetised with nembutal, the sinuses then being laid open from end to end. No foreign body was found, but it was rather anticipated that a favourable result would follow the radical surgery.

In three further weeks (during which irrigation with glycerine had been carried out) the wounds had practically healed, but unfortunately the mucoid discharge persisted and all hope of a permanent cure was abandoned. Shortly afterwards, the cat was returned to the owner, but the sinus was still discharging.

It is safe to say that by no other means than X-radiography could all the ramifications of the sinuses have been revealed; and, of course, as a guide to the surgeon such skiagraphs were invaluable.

Just prior to operation, when a good deal of hair had been removed, two punctured wounds were found in the region of the angle of the haunch. This seemed to prove that the original injury was a bite, inflicted possibly by a stoat or weasel.

* * * * *

A MYSTERIOUS MALADY IN A SIAMESE

HAMILTON KIRK, M.R.C.V.S.
London

The subject was a five-year-old Siamese queen which had had many litters of kittens. On Sunday, January 5th, I performed oöphorectomy upon her under nembutal anæsthesia. As 1½ grains of nembutal, given *per os*, had not produced satisfactory anæsthesia in 20 minutes, a little ether was required to complete it. The operation was quite successful and except for profound drowsiness all the next day, she soon recovered. On the second, third and fourth days following operation she fed well and was bright. On the fifth day she was not so interested in food, and on the sixth, seventh and eighth days she definitely refused food but was not really ill. Then at night time she commenced running high temperatures (from 104° to 105·5°) and became extremely depressed. The wound had quite healed and the sutures were removed within a week; there was not the slightest abdominal tenderness, nor sickness, which might have led one to suspect the presence of peritonitis; in fact, there were no symptoms whatever upon which one could attempt a diagnosis. Extreme depression, steadfast refusal to take any nourishment, and an occasional evening temperature were the only symptoms exhibited during the first ten days.

Then she developed extraordinary mental phenomena, such as throwing back the head, holding it sideways for long periods, rolling over, and a total incapability to maintain her balance even when lying normally upon the breast. The hind legs became too weak for progression and, of course, she was unable to stand.

I attributed this giddiness to a possible lowered blood pressure, to counteract which subcutaneous injections of ¼ pint normal saline with glucose were administered daily for several days. They had an extraordinarily salutary effect and in a further five days the loss of balance departed, though the weakness remained. All this time an intensive course of artificial feeding was maintained, consisting variously of Benger's Food, raw eggs, Brand's chicken jelly and Vitalia. Often, as much as half a pint of Benger's Food made with milk and containing two raw eggs, forcibly given, would be consumed in the course of a day. At the critical period of her illness I commenced a series of intramuscular injections (5 c.c. daily) of Bayer's Campolon. Each ampoule is said to represent the nourishment and constituents of 500 grammes of fresh liver. Campolon is expensive but I firmly believe it was the prime factor in saving this cat.

Whenever the temperature was found to be elevated I dropped a two-grain quinine pill into her mouth, but did not use this agent regularly.

At the end of three weeks, treatment for this curious and undiagnosed ailment was still being continued, the only symptoms then being great emaciation and depression. On January 26th she had definitely "turned the corner" and actually stood for a moment.

It is difficult to believe that the attack was due to surgical shock, as it set in so very late after the operation. I have wondered, however, whether nembutal exerted some unusual effect upon the higher nerve centres, as at one time the cat was definitely mental. If any reader can throw light upon this case, from my description, I should be very interested to hear his views.

Farmers are protesting, by resolution, against the regulations prohibiting the sale of strychnine to farmers to destroy vermin. It is claimed by them that the use of strychnine is the most effective method of destroying moles.

Abstracts

[**Fistulous Withers and Poll-Evil.** Frost, J. N., and Errington, B. J. (1935.) *Cornell Vet.* **25.** 2. 177-183.]

After a brief anatomical description of the ligamentum nuchæ the authors go on to discuss the distribution and ætiology of these two conditions.

It is pointed out that the conditions are most common in country horses. In the authors' experience there are farms and districts where the incidence is quite heavy, such districts furnishing over 50 per cent. of their cases. They are rare in range horses. Discussing the relation of *Brucella abortus* to these conditions, attention is drawn to the fact that in the U.S.A. the heaviest incidence does not occur in areas where Bang's disease is very prevalent.

The authors then go on to quote the literature on the occurrence of Brucella agglutinins in the sera of horses affected with fistulous withers and poll-evil, and the actual isolation of this organism from some cases. The work of Steward in this country, on the occurrence of *Onchocerca cervicalis* in the lesions, and its transmission by the midge, *Culicoides nubeculosis*, is quoted in some detail.

In discussing treatment, the radical operation is recommended for well-developed cases. Following the operation the wound is kept dry, exudate being removed with dry cotton and dusting powder being put in the wound. A modification is also suggested. Picric acid is used for rendering insoluble bacterial exotoxin, and calcium carbonate is used for stimulating phagocytosis.

Since picric acid has a high surface tension, it is incorporated with glycerine (glycerine solution 8 per cent., picric acid 0·25 per cent.). This is followed by 20 grammes of calcium carbonate in 215 c.cs. of water. The calcium picrate formed is analgesic.

Arsenic and potassium iodide given internally have been found useful.

D. L. H.

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[**A Contribution to the Study of the Pathogenic Action of Br. abortus for the Horse.** (Trans. title.) Panisset, L., and Delbe, P. *Bull. Acad. vét. France.* **8.** 2. 119-123.]

These workers attempted to produce a condition in the horse that would simulate natural infection such as has been found in cases of so-called poll-evil and fistulous withers. They mention the work of Van der Hoeden, who, although obtaining infection *per os*, was unable to produce localisation of the organism.

The authors inoculated a sterile mixture of powdered pumice and oil subcutaneously, followed in 48 hours by a large intravenous dose of *Br. abortus* isolated from a horse. This had little effect apart from the appearance of agglutinins. Two further doses of organisms were given at two-monthly intervals, the result of each being an abscess at the point of inoculation.

With a second horse, blood was drawn into a syringe containing *Br. abortus* and injected immediately into the scapular space. There was a local reaction and a positive titre developed in two days. Several days later, 5 c.c. of a bovine type culture were given in the other side of the withers. The titre became negative and the local reaction was marked. In a few days fluid resembling synovia was drawn off, the horse dying the following day. At autopsy, 50 c.c. of a sero-albuminous liquid were found at the site, the whole lesion somewhat resembling that seen in a natural case [presumably of fistulous withers.]

A. W. T.

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[**Canine Dental Surgery; its Indications and Anæsthesia.** Lacroix, J. V. (1935.) *Cornell Vet.* **25.** 3. 247-258.]

From a great deal of information of a general nature, the following points are selected as being of interest.

The embedded portion of a tooth is attached to the alveolus by a vascular layer of connective tissue called the alveolar periosteum. It is in this tissue that hyperplasia occurs following infection and inflammation, thus causing great difficulty in extracting teeth in some dogs.

Where paradontal disease has long existed, and the affected tooth is firmly embedded, extraction necessitates the rupture of considerable adjacent tissue, and shock is apt to be marked—especially in old subjects.

The technique of regional and local anæsthesia of the alveoli is described. [But see Edwards, J. Tweedale, *Vet. Rec.*, May 21st, 1932, and Tutt, J. F., D., *Vet. Rec.*, May 28th, 1932.]

For the extraction of firmly embedded incisor teeth, a forceps with slender jaws should be used, and these should be pushed deeply into the alveolus.

Third premolars may require severance of alveolar attachments, and to achieve this, a suitable chisel and mallet can be used. These remarks also apply to removal of canines.

Teeth having three roots [upper molars] may be split by cutting forceps, a convenient instrument for this purpose being the molar cutter used in equine dental surgery.

In a series of 100 cases of major extractions, the average age of the patients was seven years. Accompanying the dental disease, recurrent attacks of indigestion, arthritis, ophthalmitis, dermatitis and otitis were extremely common.

E. W. A.

[**The Importance of the Vaginal Arteries in the Diagnosis of Genital Torsions in the Cow.** (Trans. title.) Chavance, J. (1935.) *Rec. Méd. vét.* **3.** 4. 204-207.]

Normally the two vaginal arteries follow a more or less sinuous course, one on each side of the vagina, slightly below the median line, their disposition being very symmetrical. They are usually easily detected just before parturition especially if lightly massaged. As they are intimately associated with the vaginal wall any torsion of the organ is indicated by a similarly altered course of the arteries.

The author finds that most torsions of the uterus of more than a quarter of a turn can be detected by the determination of an approximately equal displacement of the vaginal arteries.

When torsion of the uterus occurs between the seventh and eighth months of gestation the twist is often in an anterior situation and the vaginal arteries are not displaced. The arteries are also difficult to palpate at this time.

In most cases, however, folds in the vagina show the condition, if not so precisely as the arteries.

The author has found the position of the arteries the best guide to follow when reducing a torsion. The torsion in the pelvic portion of the vagina is never more than a quarter turn, but the abdominal portion of the vagina and the posterior portion of the uterus submit to any further torsion through lack of both solid content and firm fixation.

C. V. W.

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[**A new Vaccine against Rinderpest: The Saponified Virus.** (Trans. title.) Curasson, G. (1935.) *Bull. Acad. vét. France.* **8.** 5. 250-253.]

An account is given of the experiments in the use of saponified virus for vaccination against rinderpest.

A preliminary experiment was conducted to ascertain the optimum proportions of the saponin-virus mixture (2 per cent.), and the following résumé of the results obtained is recorded:—

(1) A mixture of virulent blood and saponin did not infect susceptible cattle on injection; no immunity was acquired by this method.

(2) A solution of saponin was mixed with a centrifuged extract of infected calf's spleen. On injection into cattle, no symptoms of rinderpest were shown, but the animals acquired an active immunity as proved by subsequent testing. Abscess formation at the site of injection occurred in some animals.

(3) The article concludes with the technical details necessary for the production of the saponified spleen extract.

E. C. H.

[**Cutaneous Lymphosarcomatosis in a Heifer.** (Trans. title.) Lesbouyries, Berthelon and Marlot. (1935.) *Bull. Acad. vét. France.* **8.** 7. 359-364.]

Very few cases of cutaneous lymphosarcoma have been recorded in bovines. An 18-months heifer was found on examination literally clothed with a mantle of small nodular subcutaneous swellings, 2 to 5 cms. in diameter, which were especially numerous on the upper half of the body. The nodules were usually fairly hard on palpation and freely movable. The superficial lymphatic glands were enlarged and the blood count showed no gross abnormality—red blood corpuscles 7,840,000, leucocytes 8,000 per c.mm., about half the latter being lymphocytes (normal values are approximately: erythrocytes 6,500,000, leucocytes 8,000 per c.mm. with 60 per cent. lymphocytes)—variations which still come within the normal being very great. A biopsy of one of the tumours showed its lymphosarcomatous nature. After a period of alternating constipation and diarrhœa, loss of appetite and suspension of rumination followed by decubitus, the animal succumbed six weeks after the first symptoms were observed. Autopsy showed enlargement of all lymphatic glands, especially of those in the subsacral region. No further *post-mortem* findings are given. The disease is considered by the authors to be of common occurrence in France. [A clear distinction between lymphosarcomatosis and the so-called lymphadenosis of bovines is not always easy and there is no doubt that most cases described as the former are in reality examples of the latter in either its leucæmic or aleucæmic form. A clear distinction is impossible because of failure to report the blood picture and *post-mortem* findings. Lymphadenosis is very common in Germany, especially in the province of Saxony, and in North America and has been described by workers in almost all the countries of Europe.]

E. G. W.

POISONS FOR RODENTS

The University of London Animal Welfare Society will hold a technical discussion on the above subject at the College of the Pharmaceutical Society, 17, Bloomsbury Square, W.C.1, at 5.30 p.m. on Thursday, February 27th, 1936. Professor J. H. Burn, M.D., Dean of the College, will occupy the Chair and the speakers will be Professor J. G. Wright, F.R.C.V.S., Lecturer in Surgery and Materia Medica, Royal Veterinary College: "The Pathological Effects of Poisons"; Mr. J. D. Hamer, F.I.C., Consultant Chemist to the Orient Line: "Chemical Rat-Control in Ships and Docks," and Mr. T. Howard (of Wm. Howard & Sons): "Poisoned Baits."

The general discussion will be opened by Dr. G. D. Lander.

The object of the discussion is to explore the feasibility of selecting and devising poisons with a view to humane considerations.

Report

NORTHERN RHODESIA

DEPARTMENT OF ANIMAL HEALTH, 1934

"There is no doubt that the reduction in staff and consequent curtailment of systematic tours . . . has had a serious effect on the efficiency of the department and it can confidently be stated that had the normal routine duties been unrestricted much subsequent expenditure and dislocation of normal agricultural activities . . . might have been avoided." These words, found in the report (which, by the way, was received for review over twelve months after the close of the year it describes), demonstrate the difficulties under which the staff is carrying on its duties. It is difficult to understand how those responsible can justify as "economy" a course which, in its turn, is responsible for subsequent extra expenditure and dislocation of agricultural activity. Further, the effect upon individual members of the staff must be considerable.

Conditions, during the year, have been bad. Two periods of drought, during the normal rainy season, prevented the growth of adequate grazing. Heavy invasions of locusts destroyed much of the grasses and the fouling of those pastures which were not destroyed rendered them repulsive to stock. Serious losses, amongst the debilitated stock, from tick-borne diseases, naturally followed. A scheme for dipping stock in native reserves, commenced some years ago, has been suspended upon financial grounds. For the same reason, settlers have not been able to provide such adequate supplementary foodstuffs as are needed during the dry season, particularly in years of insufficient grazing. The financial advantage of sending cream to the creamery for manufacture into butter is having an adverse effect upon the calves in some herds.

In spite of all these difficulties, considerable progress is being made in restricting and eliminating disease. Details are given of the position regarding each disease found in the territory. Foot-and-mouth disease, introduced into the territory some three years ago, is being steadily subdued by a campaign of inoculation by the intramucosal method. As the disease has spread over wide areas, this is a task of some magnitude. The incidence of trypanosomiasis remains about the same: five-eighths of the territory being infested with tsetse fly. Pleuro-pneumonia remains confined to the Barotse province, a position unchanged since 1914. Rabies continues to be a source of much worry. Twenty-six outbreaks were reported during the year, "but this affords no true indication of the prevalence of the disease." Of the many humans bitten by rabid dogs, and subsequently treated, all but two showed no ill effects. Anthrax, quarter evil and many other diseases are present but are of little economic importance. Infestation with helminths is being increasingly appreciated as causing considerable loss; such is also of importance as a factor in predisposition to other infections.

At the Research Station, the breeding of pedigree, and cross-bred, animals continues, but practically all other work has suffered through the long absences of the officer in charge upon field duties in connection with foot-and-mouth disease. An exceedingly useful description of the means of diagnosing this disease, based upon observations during the present outbreak, is detailed.

The report proves that the staff is to be congratulated upon the results obtained under discouraging conditions.

J. S.

VICTORIA VETERINARY BENEVOLENT FUND

MEETING OF COUNCIL

A meeting of the Council of the Victoria Veterinary Benevolent Fund was held at 10, Red Lion Square, London, W.C.1, on Thursday, January 9th, 1936, when the following were present: Professor J. B. Buxton, Messrs. H. W. Dawes, G. H. Livesey, G. H. Locke, J. W. McIntosh, G. P. Male, W. Nairn, Mrs. M. S. Nickinson, Lieut.-Colonel P. J. Simpson, Mr. Arnold Spicer, Major J. F. Taylor, Messrs. J. Willett, W. Woods, Professor G. H. Wooldridge and Lieut.-Colonel T. Dunlop Young.

In the absence of the President, Professor J. B. Buxton was elected to the Chair.

The minutes of the previous meeting, having been published, were taken as read and signed as correct.

Letters of apology for absence were received from Lieut.-Colonel J. W. Brittlebank, Major F. L. Gooch, Mr. P. J. Howard, Major C. W. Townsend, Captain Villar and Mr. Jackson Young.

Secretary's Report

The Secretary submitted the following report, which was approved:—

Subscriptions.

	£	s.	d.
Brown, D. S., 1935/36	1	1	0
Dumfries and Galloway Division (increase)	1	1	0
Jones, Captain L. L.		10	6
Ladies' Veterinary Benevolent Guild	105	0	0
MacColl, Malcolm		10	6
MacKenzie, A.	1	1	0
Maclean, D.		10	6
Messervy, A. (increase)	1	10	6
Ringer, A. (increase)	1	1	0

	£	s.	d.
Ritchie, J. (increase)		10	6
Scott, E. E. (increase)	1	1	0
Thomson, Captain T.	1	1	0
	£114	18	6

Collecting Boxes.	*Donations.* £	s.	d.	£	s.	d.
Banham, G. F.		16	9			
Baxter, J. R.		9	0			
Central Veterinary Society	1	15	8			
Derbyshire Veterinary Association	2	0	0			
Formston, C.		13	0			
Gillmor, Captain H. ...	1	11	6			
Hewer, J. R.	2	12	0			
Lincolnshire and District V.A.		11	0			
Masson, C.	1	0	0			
Mid-West Division ...	3	0	0			
North of England V.M.A.		8	6			
North Wales Division ...	2	6	6			
Pugh, Major L. P. ...		3	6			
Royal (Dick) Veterinary College	1	2	0			
Royal Counties V.M.A. ...	3	6	0			
Southern Counties V.M.A.	1	15	0			
Taylor, Henry		8	0			
Thomson, Captain J. H.	1	17	6			
Western Counties V.M.A.	3	12	6			
Whicher, A.	2	17	0			
Yorkshire Veterinary Medical Association ...		10	0			
				32	15	5
Anthony, D. J.					5	0
Blomfield, B. W.					10	6
Burrow, H.				2	2	0
Cairn Terrier Association (*per* A. Cornish-Bowden)				1	1	0
Dumfries and Galloway Division ...					5	0
Gildea, J. J.					10	0
MacKenzie, A.				1	1	0
McWhirter, D. L.				2	0	0
Pryer, Major A. A. (Life Member) ...				10	10	0
Pryer, Major A. A.				1	1	0
Royal Veterinary College Students Union					10	0
Swann, H. C.					10	0
Southern Cairn Terriers Club (*per* A. Cornish-Bowden)				1	1	0
Steele-Bodger, H. W. Proceeds of Dinner Dance, N.V.M.A. Conference, Belfast				6	0	0
Tailby, Mark (Legacy)				100	0	0
Thomson, Captain T.				1	1	0
Willett, F. W.				100	0	0
Ward, Mrs. M. G. (non-member) ...				1	1	0
Wortley, Major W. H. Proceeds of Flannel Dance				5	10	0
West of Scotland Division				4	0	0
				£271	13	11

On the instructions of the Treasurer a sum of £280 from the Donations Account has been invested in the purchase of £268 17s. 4d. 3 per cent. War Stock.

The donation from Mr. F. W. Willett has been invested in the purchase of £116 13s. 8d. 2½ per cent. Consols.

The donation of £105 from the Ladies' Guild was made with the expressed intention that it should be used for immediate needs of the Fund and has therefore not been invested.

It was resolved: "That the cordial thanks of the Council be conveyed to the Ladies' Guild for their very handsome donation of one hundred guineas, to Mr. Willett for his special donation of £100, and to the other donors for their very welcome help to the Fund."

Life Membership. — It was unanimously resolved: "That Major A. A. Pryer be elected a life member of the Fund."

Cases

96. Widow, aged 49, six children. Only one earning. Reconsideration was given to this case, the grant having been discontinued in July, 1935. On a further report as to the circumstances of this family, the grant of 10s. per week was renewed.

115. M.R.C.V.S., aged 71. The grant of 7s. 6d. per week was continued.

122. Widow of late member, aged 37, two children in Orphanage. Has re-married. A detailed report was received on this case and it was resolved that the grant be discontinued after the end of January.

148. Widow, aged 75. The grant of £3 per month was continued, 10s. of which to be paid to the Board of Customs and Excise.

166. Widow. It was reported that this recipient had died on October 13th, 1935, and that her two children were in the Royal Infant Orphanage, Wanstead.

176. Widow, aged 65. Living in Almshouse. The Executive Committee reported that they had made a special grant of £5 towards the cost of furnishing a room for this recipient, and their action was approved.

183. Widow, aged 38. One daughter, aged five, in boarding school. The grant of 10s. a week was continued.

184. Widow, aged 44. No means. The grant of £1 a week was continued.

186. Daughter of deceased member, aged 62. Very ill and without income. The Executive Committee reported that they had made a temporary grant of £1 per week from November, 1935, and their action was approved. It was resolved that a further grant be made towards the arrears of rent, etc., the amount to be left in the hands of the Executive Committee.

187. Daughter of veterinary surgeon, aged 67. Only income is old age pension. A grant of 10s. a week was made in this case.

Christmas Gifts.—The Secretary reported that he had received the sum of £51 1s. for the purpose of making Christmas gifts, and had distributed to 39 recipients amounts of £1 1s. and £2 2s. The action of the Secretary was approved and he was authorised to open a special banking account for the purpose so as to facilitate the distribution of the gifts received.

Investments.—The Treasurer was authorised to invest the balance in hand in the Donations Account in a suitable investment.

N.V.M.A. Divisional Reports

CENTRAL VETERINARY SOCIETY

Although, as it would appear, fistulous withers and poll-evil have never—even in the "good old days" of flourishing equine practice—been the grave concern of Metropolitan practitioners that they remain of veterinarians in rural practice, yet the Fellows of the Central Veterinary Society attended in large numbers at the Conway Hall, Red Lion Square, W.C., on the evening of January 2nd, 1936, to hear and discuss the interesting results of recent research into the causation of the conditions. The subject was introduced by Mr. J. S. Steward, F.R.C.V.S., D.V.S.M., in a paper entitled "Fistulous Withers and Poll-Evil: Equine and Bovine Onchocerciasis compared, with an Account of the Life-Histories of the Parasites concerned," which, having been presented previously to the Mid-West Division, and published in *The Veterinary Record* of December 28th, 1935 (15, 52, 1563-1573) was taken as read. The discussion was opened by Mr. H. M. M. Duff, M.R.C.V.S., D.V.S.M., of the Ministry of Agriculture and Fisheries, who dealt, in particular, with the subject of "Fistulous Withers and Poll-Evil due to *Brucella abortus*." Both speakers used the Royal Veterinary College epidiascope to excellent effect in illustration, the meeting being roused to enthusiasm by the wonderful photographs and films (described below), for which Mr. Steward was responsible.

The President (Mr. J. F. Macdonald) occupied the Chair and there were also present, in addition to the essayists, Mr. S. E. B. Balfour-Jones, Capt. L. S. Balls, Mr. W. Brown, Captain V. Boyle, Mr. H. E. Bywater (Hon. Secretary), Captain J. C. Coleman, Captain H. S. A. Dunn, Captain J. Fox, Lieut.-Colonel H. Greenfield, Miss K. Hernaman-Johnson, Sir Frederick Hobday, Messrs. H. D. Jones, H. C. P. King, N. S. King, Major H. Kirk, Lieut.-Colonel G. P. Knott, Major C. J. R. Lawrence, Mr. J. Lowndes, Dr. J. McCunn, Mr. J. W. McIntosh, Mr. H. G. McShane, Captain G. Dunlop Martin, Mr. G. H. Mills, Major-General Sir John Moore, Mr. W. Perryman, Mr. C. R. A. Powell, Mr. G. W. Searles, Dr. A. W. Stableforth, Miss O. Uvarov and Mr. G. M. Walker. Mr. W. F. Barton, Mr. W. H. Chase, Miss B. Strong and Mr. D. L. Hughes were present as visitors.

Submission of the minutes of the December, 1935, meeting of the Society was deferred, as they had not yet received publication in *The Veterinary Record*.

The only items of correspondence were messages regretting their inability to attend, which had been received from Captain R. E. C. Bullen, Mr. Herbert King, Mr. G. P. Male, Professor Jas. Macqueen, Lieut.-Colonel W. S. Mulvey, Captain H. L. Roberts and Major A. A. Pryer.

The Secretary also reported the receipt of a booklet from the Royal Sanitary Institute embodying the Fourteenth Benjamin Ward Richardson Lecture, delivered on November 12th, 1935, by Mr. T. M. Morgan, on "Some Details of the System of Health Inspection of Meat and Meat Products Destined for Export, in the Great Abattoirs of South America."

Elections to Fellowship.—There being no nominations, the meeting proceeded to the election of the following as Fellows of the Society: Miss K. M. Sanderson, The Institute of Agricultural Parasitology, Winches Farm, St. Albans (proposer, Sir Frederick Hobday; seconder, the Hon. Secretary); Mr. Campbell Dickson, 23, Manor Road, Romford (proposer, Mr. R. Bennett; seconder, the Hon. Secretary); Mr. William Grant, Bank Chambers, Chelmsford (proposer, Lieut.-Colonel Mulvey; seconder, the Hon. Secretary), and Mr. P. Walker, 7, Whitehall Place, S.W.1 (proposer, Mr. W. G. Wragg; seconder, Mr. V. Boyle).

At this stage, the PRESIDENT said that, before they passed on to the next business, he desired to take that opportunity of wishing all the Fellows of the Central Veterinary Society a very happy New Year. (Applause.)

Proceeding, the President observed that there was just one other item to which he wished to draw their attention, and that was the dance on behalf of the Victoria Veterinary Benevolent Fund which was being held on Friday, January 17th. He would ask Mr. McIntosh to give them a few particulars about the function, which was being organised by the Ladies' Guild, of which Mr. McIntosh's daughter, Mrs. Nickinson, was the Hon. Secretary.

In complying, Mr. MCINTOSH said that he would like once again to make an appeal, on behalf of the Victoria Veterinary Benevolent Fund, to the profession and particularly the younger members, to interest themselves in the aims and activities of that very deserving Fund. As they probably knew, the ladies associated with the profession were doing some very noble work in connection with that matter, and they were holding a dance at the Princes Galleries on January 17th. He hoped that all of them would be there, with their friends, for not only would they have a very pleasant evening, but they would be afforded the satisfaction of knowing that they were supporting a very good cause.

Continuing, Mr. McIntosh said that those of them who had been associated with that Fund for a good many years were perhaps better aware than other Fellows of the sad circumstances in which many members of the profession and their dependants found themselves. The Fund certainly afforded a great deal of

help and comfort to many in distressed circumstances and he was sure that his hearers must realise not only what the all-too-small sums they were able to give meant to the beneficiaries but how very deserving the Fund was of the fullest possible measure of support. He appealed to them, therefore, in the name of the Royal College, to assist the Fund by every means in their power. (Hear, hear.)

Morbid Specimens and Cases of Interest

Captain L. S. Balls stated that a fortnight previously a lady brought him a cat which was lame on one of its fore-legs, the peculiar feature of the case being that the cat walked like a kangaroo. He requested her to allow him to bring the cat to the meeting in order that the Fellows might have the opportunity of seeing that curious gait, but this she would not allow. Symptomatic treatment yielded no improvement, and a few days later he destroyed the animal at the owner's request. He then had the bones boiled out, when he found that there was complete anchylosis of the shoulder joint—as they would observe in the specimen exhibited. There was no inflammation there at all. The accident which caused the anchylosis actually occurred as long as two years ago, when the cat was seen by one of his assistants, who could not satisfy himself as to the true nature of the condition.

Mr. H. D. Jones exhibited the head and higher cervical vertebræ of a horse which had been the subject of poll-evil. The exhibit was an old one, but he thought it would be of interest to the Fellows in view of the subject for discussion that evening. The animal was treated and recovered, working for a good many years afterwards. The interesting point about the case and the exhibit was that there was complete anchylosis of the atlas to the occiput.

Major Hamilton Kirk thought that it was a very remarkable thing that Captain Balls should have brought the specimen he had done, because, as they might remember, he (the speaker) had brought a specimen of anchylosed shoulder in a cat to their notice a few months ago, when he had stated that in 25 years of practice he had never seen such a thing before. Now, within three months, came a second case. In his case the cat became progressively lamer for twelve months and he took it to be a case of arthritis.

In reply to Captain Dunlop Martin, Captain Balls said that the cat in question was an ordinary black cat, weighing about 12 lb.

Paper.—There being no more morbid specimens, or further discussion on those exhibited, the President said that they would now pass on to the discussion of Mr. Steward's paper, which had been published and which he hoped all had read. Before asking Mr. Duff to open the discussion, however, he would request Mr. Steward to give them his epidiascopic and film demonstration, in illustration of his subject, "Fistulous Withers and Poll-Evil: Equine and Bovine Onchocerciasis compared, with an Account of the Life-Histories of the Parasites concerned."

An epidiascope demonstration was given of a number of photographs, microphotographs and coloured lantern slides illustrating cases of the disease, specimens of *O. cervicalis* in diseased ligament, and microphotographs of the histology of infected ligaments, and a complete series of the various stages of development of the microfilaria in the intermediate hosts (*Culicoides* for *O. cervicalis* and *Simulium* for *O. gutturosa*).

Two ciné films were also projected, one showing the manner of conducting the investigation and the collection, rearing and feeding of the flies, and the other, a micro-film [taken at Cambridge with Professor Buxton's micro-ciné apparatus] showed the emergence of the parasitic worms from the head of the midge (*Culicoides*). Preserved specimens of diseased and infested ligament and of the adult parasites were also exhibited, as well as pinned flies of the following blood-sucking genera: *Culicoides*, *Simulium*, *Tabanus*, *Hæmatopoton*, *Chrysops*, *Stomoxys*, *Anopheles*, *Culex*, etc.

[As recorded above, Mr. Steward's paper was published in our issue of December 28th, 1935. That by Mr. Duff, on "Fistulous Withers and Poll-Evil due to *Brucella abortus*," is reproduced, together with the general discussion on both papers, at the commencement of this issue.—*Editor.*]

At the conclusion of the discussion, which was very well sustained, the President said that he would like to propose a very hearty vote of thanks to Mr. Steward and Mr. Duff for their kindness in coming and giving the Central Veterinary Society such very exhaustive studies of those diseases. Not only was the Society indebted to them, but the whole of the veterinary profession, because work of that kind, done by members of the profession, must do a great deal to enhance the prestige of the profession not only in the scientific world but amongst the general public, which, he thought, was a very important matter. (Hear, hear.)

The vote of thanks was accorded with much enthusiasm.

Any Other Business

Under this heading, the President said that he thought they would all have heard—and with the very greatest regret—that Lady Hobday, the wife of one of their most eminent members, had had a very serious accident and was, he believed, still in a critical condition. He felt that it would be the wish of the Fellows that there should be sent to Sir Frederick, on

their behalf, a message of sympathy, expressing the earnest hope that Lady Hobday would make an early and complete recovery. (Hear, hear.)

The meeting concluded with the passing of votes of thanks to Mr. Southern (the operator of the epidiascope and the film projector), to those who had brought exhibits and to the President for his conduct of the proceedings.

H. E. Bywater, *Hon. Secretary.*

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SCOTTISH METROPOLITAN V.M.A.*

MEETING AT PERTH

A meeting of the Scottish Metropolitan Division of the National Veterinary Medical Association was held in the Station Hotel, Perth, on June 29th, 1935, at 2.30 p.m. The President, Major A. Spreull, occupied the Chair, and there were also present Messrs. J. D. Ferguson, John Gibson, F. A. Gordon, T. M. Inglis, W. Nairn, Balfour Philp, Captain J. N. Ritchie, Messrs. J. S. A. Spreull, J. M. Rorrison, H. M. Wilson and W. Jackson Young. Mr. G. T. Weir was present as a visitor.

The receipt of apologies for absence was intimated from Major A. Baird, Professor Boddie, Dr. O. Charnock Bradley, Mr. A. Gofton, Dr. J. Russell Greig, Professor Linton, Professor Mitchell and Messrs. A. Linton Robertson and W. Watt.

The minutes of the previous meeting were read and signed as correct.

Correspondence.—The Secretary read the correspondence and was instructed as to his replies to the various letters.

Resignation.—A letter was read from Mr. K. A. Forker, Ayr, tendering his resignation, as he was leaving the district for Bristol. It was agreed to accept the resignation with regret.

Election of Members.—On the motion of Mr. Nairn, seconded by Mr. Inglis, Messrs. W. A. Ireland, A. P. Steel and A. M. Grant were elected to membership of the Division.

Paper.—The President then called on Major W. Hamilton Kirk, of London, to present his paper, "Emesis in the Dog and Cat." After he had delivered this most informative paper, Major Kirk handed round for inspection several skiagraphs of different conditions and also some surgical appliances which he had found very useful. [This paper, and a report of the ensuing discussion, are reproduced at the commencement of this issue.—*Editor.*]

Following the discussion, Mr. Nairn proposed a vote of thanks to Major Kirk, which the meeting heartily accorded. The members then proceeded to the hotel lounge, where tea was kindly provided by the President.

J. W. Burgess, *Hon. Secretary.*

* Received for publication January 27th, 1936.

BIOLOGICAL ASSAY OF LIVER EXTRACTS

It is pointed out in *The Lancet* of January 11th that while many attempts have been made to devise a method for biological assay of liver preparations, none has hitherto been successful. Previously it has been essential to test all material of unknown potency upon patients with Addisonian pernicious anæmia. "Such patients," says *The Lancet*, "should have a red cell count below 2,000,000 per c.mm., and no complicating factors such as sepsis present." Continuing, it is stated that recently two promising lines of attack on the problem have been proposed.

"Miller and Rhoads[1] by feeding swine with a modified form of the diet which produces black tongue in dogs have produced a symptom-complex, not unlike that of pernicious anæmia, which is relieved by the administration of potent liver extracts. These observations suggest that in the future such anæmic swine may be used as test animals. Lansberg and Thompson[2] and Jacobson[3] working independently have shown that the guinea-pig reacts to the administration of potent liver preparations by a reticulocytosis. Jacobson employed adult male pigs weighing between 300 to 800 g. and kept on a diet of oats, carrots and lettuce. He found that 30 to 70 per cent. of the animals showed a significant rise in the number of reticulocytes following parenteral injection of active liver preparations when first given. The uninjected guinea-pigs offer no clue that might seem to differentiate between the two classes of guinea-pigs—*i.e.*, those that will react and those that will not. Further tests of initially non-reactive animals may show them later to have become reactive. Conditions in the guinea-pig necessary for a reaction to occur are not yet clear. Using known reactive animals, it has been possible to show that for every active material there exists a minimal effective dose which is termed the guinea-pig unit of hæmopoietic activity and which is a quantitative expression of the degree of activity. It would appear justifiable to conclude that the capacity to induce a reticulocytosis is confined to materials effective in pernicious anæmia, since, when an assay on guinea-pigs of crude extract from human livers was made, a control healthy human liver gave a value of 127,000 guinea-pig units, while that of a case of pernicious anæmia in partial remission had a value of 47,000, and that of two cases in relapse had a value of only 650 and 380 guinea-pig units. The material in liver, therefore, which is reticulocytogenic in the guinea-pig is at least closely related to the material effective in pernicious anæmia. The administration of the extrinsic factor of Castle alone to guinea-pigs was ineffective, but extrinsic factor predigested with gastric juice was reticulocytogenic. Comparative studies of potency of certain materials carried out on guinea-pigs and patients gave results which agreed in a satisfactory manner. The rise in reticulocytes considered positive by Jacobson is slight, but from considerable experience he claims that provided a rigorous technique is employed the results obtained are significant and he concludes that, regardless of the obscurity of the basis of the phenomenon, the guinea-pig test is a valid indicator of the therapeutic efficiency of materials effective in pernicious anæmia."

[1] Miller, D. K., and Rhoads, C. P.: *Jour. Clin. Invest.*, 1935, xiv., 153.

[2] Landsberg, J. W., and Thompson, M. R.: *Jour. Amer. Pharm. Assoc.*, 1934, xxiii., 964.

[3] Jacobson, B. M.: *Jour. Clin. Invest.*, 1935, xiv., 665 and 679.

N.V.M.A. Congress at Scarborough, September 14th-18th, 1936

PROVISIONAL PROGRAMME

The following is the Provisional Programme of the Association's Congress, to be held at Scarborough from September 14th to September 18th, 1936:—

SUNDAY, SEPTEMBER 13TH—

8 p.m.—Informal "At Home" (Place to be selected).

MONDAY, SEPTEMBER 14TH—

10 a.m.—Civic Welcome by the Mayor of Scarborough (Public Library).
10.30 a.m.—Opening of Exhibition of Surgical Instruments, Drugs, etc., by the President. (Harrison Room, Public Library).
11 a.m.—Paper: "Hysteria in Dogs," by Mr. H. R. Hewetson, M.R.C.V.S. Discussion to be opened by Major F. Chambers, O.B.E., F.R.C.V.S. (Public Library).
7.30-11 p.m.—Civic Reception and Dance. (Place to be selected.)

TUESDAY, SEPTEMBER 15TH—

10 a.m.—Paper: "Abortion in Ewes," by Professor J. Russell Greig, PH.D., M.R.C.V.S. Discussion to be opened by Captain T. J. Bosworth, B.SC., M.R.C.V.S., D.V.S.M. (Public Library).
11 a.m.—Paper: "A Consideration of the Accredited Producers' Scheme of the Milk Marketing Board," by Major D. S. Rabagliati, O.B.E., B.SC., F.R.C.V.S., D.V.S.M. Discussion to be opened by Mr. H. W. Steele Bodger, M.R.C.V.S., (Public Library).
3 p.m.—Operations and Demonstrations (Corporation Stables).
8 p.m.—President's Reception (Place to be decided).

WEDNESDAY, SEPTEMBER 16TH—

10 a.m.—Paper: "The Detection of the Tuberculous Cow," by Captain H. L. Torrance, M.R.C.V.S., D.V.S.M. Discussion to be opened by Mr. J. S. Steward, F.R.C.V.S., D.V.S.M. (Public Library).
11.30 a.m.—Paper: "Some Observatio on the Use of Vaccines in the Protection of Cattle against Tuberculosis," by Professor J. B. Buxton, M.A., F.R.C.V.S., D.V.H. Discussion to be opened by Mr. H. G. Lamont, M.SC., M.R.C.V.S. (Public Library).
2.30 p.m.—Council Meeting (Public Library).
3.30 p.m.—Annual General Meeting (Public Library).
7 p.m. for 7.30 p.m.—Annual Banquet (Royal Hotel).

THURSDAY, SEPTEMBER 17TH—

10.30 p.m.—Address and Demonstration on "Sterility in Bulls," by Professor Nils Lagerlöf of Stockholm (Public Library).
2 p.m.—Excursions.
8 p.m.—Dance in aid of the Ladies' Benevolent Guild (Royal Hotel).

FRIDAY, SEPTEMBER 18TH—

10 a.m.—Paper: "A General Consideration of the Disease Conditions mentioned in the Horse Breeding Acts," by Professor W. M. Mitchell, M.C., M.B., CH.B., B.SC., M.R.C.V.S. (Public Library).
3 p.m.—Closing Meeting (Public Library).

Schedule of Accommodation at Hotels and Boarding Houses

Name and situation of hotel or boarding-house.	Charges for bed and breakfast.		Weekly charges for bed and breakfast.		Inclusive charges.				Whether garage at hotel —if not, situation of nearest garage.	Available bedroom accommodation.	
					Per day.		Per week.				
	Single room.	Double room.	Single room.	Double room.	Single room.	Double room.	Single room.	Double room.		Single rooms.	Double rooms.
Parade Private Hotel, Esplanade	6/6	12/-					3½ gns.	7 gns.	No. Nearest 1 minute away	7	8
Spa Private Hotel, St. Nicholas' Cliff	6/6	13/-			10/-	20/-	3 gns.	6 gns.	No. Nearest 100 yds. away	20	40
Prince of Wales Boarding House, 28, Prince of Wales Ter.	6/6	13/-					3½ gns.	£7	No. Nearest at back of hotel	10	20
Grosvenor Private Hotel, South Cliff			50/-	4 gns.			3½ gns.	6 gns.	Yes — for 11 cars. Nearest garage 3 mins. away	14	54
"Breece," West St., South Cliff	7/-	12/- 14/- twin beds					3½ gns.	133/- 3½ gns. each, twin beds	No. Nearest 200 yards away	10	25 (9 with twin beds)
"Rivelyn" Private Hotel, Crown Crescent, South Cliff	7/-	12/-			11/6	21/-			Yes — for 6 cars	6	14
Sefton Private Hotel, Prince of Wales Terrace, South Cliff	7/6	15/-			10/6 to 11/6	21/- to 23/-			No. Nearest a few yards away	3	33 Passenger lift to all bedrooms
Fairview Hotel, South Cliff	7/6	13/-	52/6	91/-	11/- to 13/-	20/- to 25/-			Yes—2 lock-up garages & very large garage 150 yds. away	21	35
Denisholme Private Hotel, South Cliff	7/6	12/6					4 gns.	7 gns. to 8 gns.	No. 3 garages near	2	9
Clifton Hotel, North Bay	7/6	14/-					4 gns.	£8	No. Garage adjoins hotel	20	40
Zylpha Hotel, South Cliff	7/6	14/-					3½ gns.	6 gns.	Yes — a small one—a very large garage opposite	50	40
"Carisbrooke" Central Private Hotel, The Crescent	7/6	13/-					3½ gns.	7 gns.	Own car park	10	24
St. Nicholas' Private Hotel	7/6 to 8/6	15/- to 17/-			21/- to 25/-	21/- to 25/-			No. Nearest 100yds. away	45	50
Rowntree's Villa Esplanade, South Cliff	8/-	15/-	55/-	5 gns.					No. Nearest 2 mins. away	15	30
Silverdale Private Hotel, Esplanade	8/-	16/-					4 gns.	7 gns. to 10 gns.	No. Nearest at back of hotel	6	14
Hotel Montrosa, South Cliff.	8/6	17/-					From 87/6	From 8 gns.	No. Three within 150 yards	6	14
Allfield Private Hotel, Prince of Wales Gardens, South Cliff	8/6	17/-			12/6 to 15/-	25/- to 30/-			No. Nearest 1 min. away	4	16
Wessex Private Hotel, Esplanade, Sth. Cliff	8/6	17/-					From 4 gns.	From 8 gns.	No. Nearest 1 min. away	20	26
Esplanade Private Hotel, South Cliff	From 8/6	From 17/-					From 4 gns.	From 8 gns.	Largest garage in Scarborough, within 100 yds. of entrance	20	60

Name and situation of hotel or boarding-house.	Charges for bed and breakfast.		Weekly charges for bed and breakfast.		Inclusive charges.				Whether garage at hotel —if not, situation of nearest garage.	Available bedroom accommodation.	
					Per day.		Per week.				
	Single room.	Double room.	Single room.	Double room.	Single room.	Double room.	Single room.	Double room.		Single rooms.	Double rooms.
St. Alma Private Hotel, West Street, South Cliff	8/6	17/-			10/6	21/-	3 gns.	6 gns.	Yes — public garages also next door	8	30
Weston Private Hotel, Esplanade, Sth. Cliff	8/6	17/-			12/6	25/-			No. Garage accommodation within 3 mins. of hotel	4	16
Brooklands Hotel, South Cliff	8/6	17/-			10/6	21/-			No. Public garage at rear of hotel	21	30
Argyll Private Hotel, Esplanade, Sth. Cliff	8/6	17/-					87/6	£8 15s. to gns.	No. Nearest 1 min. away	2	12
Grand Hotel	8/6 to 10/6	17/- to 21/-			16/- to 25/-	32/- to 50/-			No. Nearest 2 mins. away	100	200
Hazeldene Private Hotel, 48, Esplanade, South Cliff					From 10/6	From 21/-			No. Public garage 3 mins. away	2	15
Waldorf Hotel, Esplanade					From 10/- to 13/6	From 20/- to 27/-	70/- to 94/6	£7 to 9 gns.	No. Nearest 2 min.'s walk from hotel	10	20
Prince of Wales Hotel	10/6	21/- 25/- private bath					7 gns.	14 gns.	No. Nearest 1 minute from hotel	70	50
Cambridge Hotel, South Cliff	10/6	21/-							Yes, for 4 cars Lock-up gar. 2/- per night Several near	15	30
Holbeck Hall Hotel, Seacliffe Road	10/6	21/-					From 5 gns. to 7 gns.	From 10 gns. to 14 gns.	Yes	16	16
Pavilion Hotel	From 10/6	From 21/-					From 5 gns. to 9 gns.	From 10 gns. to 18 gns.	Yes	50	50
Royal Hotel	10/6	21/-					From 5 gns. to 8 gns.	From 10 gns. to 16 gns.	No. 3 public garages in close proximity	100	95
Uplands Private Hotel, Prince of Wales Terrace, South Cliff					10/6 to 14/-	21/- to 28/-			No. Good garage within 100 yds.	8	16
Hotel Granville, Esplanade	12/- to 16/6	24/- to 33/-							No. Public garage at rear of hotel	18	30
Manor Private Hotel					12/- to 15/-	24/- to 30/-			No. Nearest 150 yards from hotel		
Ramsdale Private Hotel, South Cliff							5 gns. and £5 15s.	10 gns. and £11 10s.	Yes	11	18
Red Lea	14/- to 18/-	28/- to 36/-							No. Nearest 3 mins from hotel		
Queen's Hotel					14/- to 21/-	28/- to 42/-			No. Outside parking for 40 cars in hotel grounds	38	50
Crown Hotel	14/6	29/-			21/6 to 25/6	43/- to 51/-			No. Public garage directly at rear of hotel	20	20

The positions of the above-mentioned hotels can be ascertained from a map published in the Scarborough Handbook, copies of which can be obtained post free from the Publicity Manager, Town Hall, Scarborough.

AS THE PERIOD OF THE CONGRESS COMES WITHIN THE "BUSY SEASON," EARLY BOOKING OF ACCOMMODATION IS ESSENTIAL.

In Parliament

The following questions and answers have been recorded in the House of Commons recently:—

Milk Act, 1934

Colonel Sir Edward Ruggles-Brise asked the Minister of Agriculture what action the Government propose to take when the main provisions of the Milk Act, 1934, expire at the end of March?

Mr. Elliot: For several reasons, including the currency of various trade agreements and the fact that the report of the Reorganisation Commission for Milk for Great Britain is not likely to be published for some time to come, it is not possible at present to bring before Parliament long-term legislation for the milk industry. In order to allow adequate time for the consideration by all parties of the important questions at issue, the Government have decided to ask Parliament to continue until the end of September, 1937, the main provisions of the Milk Act, 1934. A Bill to give effect to this decision will be introduced forthwith.

Mr. T. Williams: Can the right hon. Gentleman say how much it is likely to cost the consumer?

Mr. Elliot: The hon. Member had better await the Bill.

Milk (Special Designations)

Mr. T. Williams asked the Minister of Health how many protests have been received by his Department concerning the revised draft Order, special designations for milk; whether he is aware of the general opposition of all producers of certified milk and all those agencies who are trying to improve the standard and quality of milk; and whether he will consult with interested bodies before the revised draft Order comes into force?

The Parliamentary Secretary to the Ministry of Health (Mr. Shakespeare): My right hon. Friend has received very few representations with regard to the revised draft Milk (Special Designations) Order, which was published on January 24th. The answer to the second part of the question is in the negative. It is open to any interested parties to make representations to my right hon. Friend upon the draft within 40 days of its publication, and any such representations will receive full consideration.

Mr. Williams: Is the hon. Gentleman aware that virtually all producers of certified milk regard the new designations Order as a deterioration and as something calculated to retard the development and production of good quality milk?

Mr. Shakespeare: Naturally, certain inconvenience is caused when legislation is changed, but I think much of the opposition to the new Order is based on misunderstanding.

Mr. Williams: Do I understand from the hon. Gentleman then that his right hon. Friend and himself would be willing to listen to representations by certified producers?

Mr. Shakespeare: Certainly.

Johne's Disease

Mr. MacLaren asked the Minister of Agriculture whether he is aware of the alarming spread of Johne's disease: and what steps his Department are taking to check it?

Mr. Elliot: I am aware that there are indications that the disease is becoming more prevalent in some districts. A bulletin describing the disease and recommending measures for its control has been issued by the Ministry, and I am sending a copy to the hon. Member. The research work which has been in progress for a number of years on the subject has recently been extended, under the supervision of a special committee of the Agricultural Research Council.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

Feb. 17th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, 4 p.m.

Feb. 17th.-29th.—Meetings of the Society of Veterinary Practitioners at various centres (see Notices).

Feb. 21st.—Sixtieth Annual General Meeting of the Eastern Counties Division, N.V.M.A., at Norwich, 2 p.m.

Feb. 21st.—Annual General Meeting of the Lincolnshire and District Division, N.V.M.A., at Grantham, 2.30 p.m.

Feb. 25th.—Annual General Meeting of the Lancashire Division, N.V.M.A., at Liverpool.

Mar. 3rd.—Meeting of the Dumfries and Galloway Division, N.V.M.A., at Carlisle, 12 noon.

Mar. 3rd.—Royal Veterinary College, Annual Ball, Park Lane Hotel, W.

Mar. 13th.—Annual Dinner and Dance of the Yorkshire Division, N.V.M.A., at the Guildford Hotel, Leeds.

April 1st.—R.C.V.S. Annual Fee due.
R.C.V.S. Committee Meetings.

April 2nd.—R.C.V.S. Committee Meetings.

April 3rd.—R.C.V.S. Committee and Council Meetings.

May 7th.—Last day for nominations for election to R.C.V.S. Council.

May 21st.—Voting Papers issued, R.C.V.S. Council Election.

May 28th.—R.C.V.S. Council Election Voting Papers due.

June 4th.—R.C.V.S. Annual Meeting and Luncheon in Edinburgh.

June 11th.—D.V.S.M. Examination begins.

June 24th.—R.C.V.S. Committee Meetings.

June 25th.—R.C.V.S. Committee Meetings.

June 26th.—R.C.V.S. Committee and Council Meetings.

June 29th.—R.C.V.S. Membership Examinations begin.

Sept. 14th-18th.—N.V.M.A. Annual Congress, Scarborough.

R.C.V.S. COUNCIL ELECTION

The Voting Papers for the election of eight members to the Council of the R.C.V.S., which will take place in June next, have now been issued to all members of the College practising overseas. The members retiring are Sir John M'Fadyean, Professor G. H. Wooldridge, Dr. A. Leslie Sheather, Professor J. B. Buxton, Mr. G. H. Locke, Dr. J. Share Jones, Mr. J. Willett and Mr. T. M. Mitchell.

All of these have been nominated for re-election with the exception of Dr. Sheather, who has decided not to seek re-election, and there are the following additional nominations: Mr. J. F. D. Tutt of Winchester, Mr. G. C. Webster of Lancaster, Dr. Tom Hare of London and Mr. A. H. Watson of Bradford.

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MEMORIAL TO Dr. GRIFFITH EVANS

Tribute by the University College of North Wales

We are glad to learn that, most appropriately, the governing body of the University College of North Wales, Bangor, has decided that the new wing to be added to the buildings housing the Department of Veterinary Science is to be erected as a memorial to Dr. Griffith Evans, who was Lecturer in Veterinary Hygiene at the College for 20 years.

It will be remembered that the profession's far-famed centenarian member, who passed away shortly after the whole scientific world had paid tribute to his attainments and achievements, was induced by the University College to accept the post of Lecturer immediately after settling at Bangor when, in 1890, he retired from the Army.

The College intends shortly to issue an appeal for subscriptions, and the Ministry of Agriculture has undertaken to give a pound for pound grant.

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PERSONAL

A Manifestation of Professional Esteem Towards MM. Ramon and Guérin.—A ceremony organised by the Syndicat National des Veterinaires took place on January 10th, at the Veterinary Club, in honour of two members famous through their work: M. Ramon, Sub-Director of the Pasteur Institute and author of anti-diphtheritic vaccination, and M. Guérin, Departmental Chief at the Pasteur Institute and collaborator with Professor Calmette upon the antituberculous vaccination by B C G.

During the ceremony, at which persons representing the Ministry of Agriculture, Public Health and National Education, and delegations from the Academy of Sciences and Academy of Medicine assisted, medals sculptured by the eminent sculptor Darras were presented.

Appointment.—Mr. S. A. Evans, M.R.C.V.S., Assistant Veterinary Pathologist, Mpwapwa, has been appointed Acting Senior Veterinary Officer in Tanganyika.

On Leave.—Captain D. H. Dimes and Mr. C. P. Downes, Veterinary Officers in the Colonial Service, are at home on leave from Tanganyika Territory and Uganda, respectively.

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R.C.V.S. OBITUARY

Newsom, Augustus Charles, C.M.G., C.B.E., Colonel A.V.S. (retd.), of Etterby, Ixopo, South Africa. Graduated London, July 6th, 1887; died January, 1936, aged 69 years.

Colonel A. C. Newsom

Colonel Newsom, who died at Grey's Hospital, Maritzburg, served for the greater part of his life in the Royal Army Veterinary Corps. He was in the Chitral Campaign in India in 1895, and went from that country to the South African War in 1899, and was in the seige of Ladysmith. He returned to England at the close of hostilities, and was for a time in charge of the Veterinary School at Aldershot. From there he went back to India, but returned to England on the outbreak of the War in 1914. He was attached to the Headquarters Staff as Deputy Director of Veterinary Services, and in this capacity he served throughout the War. He was mentioned in dispatches five times, and was made a C.M.G. and C.B.E. for his services. In 1919 Colonel Newsom was appointed Director of Veterinary Services in the Near East, where he did important work both in Egypt and in Palestine. Ill-health forced him to retire, and after living in England for a short period he went out to Natal, where he acquired the wattle farm of Etterby in the Ixopo district. His death followed an accident in felling wattle trees in the plantation on the farm. Colonel Newsom was struck on the leg by a falling tree and suffered a broken thigh. He is survived by his widow, a son at present in the British Army in Egypt, and a daughter.

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VETERINARY INSPECTION IN SHROPSHIRE

At a recent meeting of the Shropshire County Council it was reported by the Finance Committee that a special sub-committee had considered the recommendation from the Public Health Committee which suggested that an adequate veterinary service was necessary for the county and that the expediency of providing such a staff should be considered. The sub-committee had had before them a memorandum on behalf of the practising veterinary surgeons of the county, and also resolutions from the Shropshire and Oswestry branches of the National Farmers' Union, together with reports of the officers of the Council concerned. They had also received a deputation of three representatives of the veterinary surgeons.

Having received the findings of the sub-committee, the Finance Committee now recommended that in view of the present financial commitments of the Council, consideration of the matter of putting into operation that section of the Milk and Dairies Order which dealt with the routine inspection of all dairy herds should be deferred for further consideration in time for the next annual budget. The committee further recommended that it be a recommendation to the Public Health Committee to consider the appointment of two additional whole-time veterinary officers for the purpose of dealing with the present work of the Council in connection with Grade "A" licences.

A motion was carried that the second recommendation regarding the appointment of the veterinary officers be referred back to the committee, and that the matter be considered

together with the amendment proposed by Lord Harlech. This amendment was as follows: "That the future administration of the Milk (Special Designations) Order, 1923, should be referred to the Finance Committee to consider the advisability, if thought expedient, of recommending the Council at the next meeting to appoint a special committee to administer it."

Mr. Wm. Everall, in supporting Lord Harlech's amendment, said that did not render inoperative the recommendation of the Finance Committee with regard to the appointment of veterinary officers, but he hoped everyone interested in the matter would see that they did not commit themselves to the appointment of whole-time veterinary officers.

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A report of the above meeting of the County Council was given by the branch representatives, at a meeting of the Shropshire Executive of the National Farmers' Union, when Mr. J. C. Morgan said that it should be clearly understood that there were many County Councillors who were not actually opposed to the appointment of additional veterinary officers but who remembered, however, that when the chief veterinary officer was appointed it was clearly understood that in the first instance he should co-ordinate the work done by part-time inspectors in the county. He and other Councillors felt that until that was fulfilled they should not proceed to the next step.

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SHIRE HORSE SOCIETY

The members of the Shire Horse Society at their annual meeting at the Royal Agricultural Hall, Islington, agreed to present an address to the King expressing their profound sorrow at the death of King George and tendering to King Edward their congratulations on his accession to the Throne. They also agreed to send an address to Queen Mary with an expression of their heart-left sorrow and deep sympathy.

Sir Edward Mann, who presided, referred to the great interest which King George, as patron, had taken in the society's work and to his active connection with the society as an exhibitor. He recalled that in 1921 his late Majesty won the championship of the show with his stallion Field Marshal Fifth.

Mr. C. Barker, Helmsley, Yorkshire, who was unanimously elected president of the society for the ensuing year, advised small farmers, particularly those in the Yorkshire Dales, to breed horses. He said that in the past few years a good many foals had been bred in Yorkshire, and in many cases they had paid the rent.

The report of the veterinary surgeon on the exhibits at the present show stated that out of 173 horses examined only one was rejected.

The Champion Stallion

The championship judging at the Show was watched by a great company of breeders and others interested in the draught horse, the show being acclaimed as one of the best that has been held held by the Shire Horse Society for many years.

The visitors included the Lord Mayor of London and the Sheriffs; the Minister of Agriculture and Mrs. Elliot, the Duke of Devonshire, and Sir Walter Gilbey, who were present at the presentation of the championship trophies by the president.

As was expected, the supreme stallion championship was won for the second year in succession by Mr. J. Morris Belcher's five-year-old dark brown stallion Harboro' Goldfinder, which has done so well at Islington. Two years ago he was the junior male champion. He is of true Shire type and has great quality. As was the case last year, his chief opponent in the contest for the King George V Cup was the five-year-old Raans Clansman, shown by Messrs. James Forshaw & Sons. When seen together these grand horses made an attractive spectacle and there appeared to be little to choose between them. After careful judging they stood as they did last year—champion and reserve.

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GOLDEN JUBILEE OF Mr. CRUFT'S SHOW

The entry of 10,650 received for Mr. Charles Cruft's golden jubilee show at the Royal Agricultural Hall constituted a world's record. It was an increase of 1,520 on last year, when 3,998 dogs were benched. The number of dogs shown was 4,388, and the hall, annexes and galleries were filled to the utmost.

"The gundogs alone equal the total entries obtained at many important shows in pre-War years," says *The Times*. "For some time cocker spaniels have been the most numerous, and an entry of 766 was imposing, but this time it was below that of Labradors, which reached 898. The four varieties of retrievers between them made an entry of 1,279, to which must be added seven Chesapeake Bay dogs.

"Golden retrievers had 226 entries, and others that had done well in this section were Irish setters, 252; English springer spaniels, 239; English setters, 143; and pointers, 179. Terriers were there in abundance, headed by Cairns, 296; wire fox terriers, 281; Scottish, 230; and Sealyhams, 213. The sporting dogs, however, by no means monopolised the interest, for practically all breeds exceeded the average. Pekingese had 359 entries; chow chows, 371; smooth dachshunds, 252; Alsatian, 255; bulldogs, 250; Dalmatians, 200; Welsh corgis, 230; and Pomeranians, 201."

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LEGAL NOTES

Assize Action over a Pig Deal.—In the Nisi Prius Court at the Norfolk Assizes at Norwich on January 31st, before Mr. Justice Mackinnon and a special jury, Walter Ernest Hunter Rowe, fruitgrower and farmer, of Upwell, sued W. Parker & Sons, dealers in and breeders of livestock, of Babingley Hall, King's Lynn, claiming £530 0s. 7d. damages arising out of a transaction concerning 288 pigs.

Defendants counter-claimed for damages for alleged libel and slander.

Counsel for plaintiff were Mr. Van den Berg, K.C., and Mr. N. A. Beechman, and for defendants Mr. G. D. Cassels, K.C., and Mr. G. O. Slade.

Opening the claim to the jury, Mr. Beechman said the plaintiff on or about January 11th, 1935, bought a number of pigs from the defendants, and the plaintiff alleged that at the time when he bought those pigs the defendant expressly gave him an implied warranty, or in other words said that the pigs were sound, and the plaintiff said that that warranty and agreement were broken because the pigs were not sound but diseased and had swine fever. Alternatively the plaintiff said that the defendants delivered to him a number of pigs which were diseased and of a dangerous character, and that the defendants wrongfully failed to warn the plaintiff of that danger. Counsel said the allegations were denied by the defendants, and furthermore they had a counter-claim for damages on the grounds of libel and slander,

to which plaintiff pleaded justification or alternatively privilege.

Mr. Van den Berg explained that plaintiff had a number of farms in the neighbourhood of King's Lynn, and he wanted to buy some pigs to feed there and re-sell at a profit. Being anxious to avoid risk of swine fever he would not purchase them in the open market, but decided to go to such well-known dealers as W. Parker & Sons where he could get some assurance that the pigs were disease-free. Plaintiff went to see Mr. Parker on January 11th, 1935, at which time plaintiff's farms were absolutely free of disease of any kind. He had not bought any pigs since the previous November. Plaintiff told Mr. Parker what he wanted and got an assurance that the latter's pigs were free from disease, and acting on that assurance he bought a substantial quantity. The pigs were delivered the next day to Mr. Rowe's farms and shortly after the pigs there became infected with swine fever.

Counsel claimed that it was clear that the disease was communicated by the pigs sent by Mr. Parker. Mr. Rowe's farms were closed down and he suffered very heavy loss. Defendants in substance claimed that plaintiff had said to several people that Mr. Parker supplied him with pigs infected with swine fever, and that he added that Mr. Parker knew at the time that they were so infected. Defendants said that was slander and claimed damages on that account. In answer to that Mr. Rowe said that whatever he said was privileged and that it was his honest belief that it was true.

Ernest D. Down, of Congham, said he was for eight months prior to last June pig manager on Mr. Parker's various farms. He noticed some of the pigs were ailing in the previous October. They were weak in the back, reeled about and had the "scours." This continued and four or five weeks after they began to die at the rate, on an average, of five or six a day. They were buried on the farm. He reported the matter to Mr. Parker, telling him he thought the symptoms were those of swine fever, but Mr. Parker said "no" and that it would be erysipelas. He had several discussions about it with Mr. Parker. He remembered Mr. Rowe coming to the Babingley farm in January and went with him round the various farms. He heard Mr. Rowe say to Mr. Parker that he preferred to buy pigs from the farms to avoid swine fever, and Mr. Parker replied that it was wise. He left the employment in June, Mr. Parker's son complaining that he had not met him at the market as arranged and that he had not seen him about the farms and that he had better leave.

Cross-examined witness said that between 15 and 20 pigs were ill at the beginning of January, 1935. He did not call in a veterinary surgeon. Some of the pigs were dying in December and January, some being of the size sold to Mr. Rowe. A man named Hurn in charge of the pigs on Walley Farm buried some of the carcases. It was on January 28th that he knew definitely that swine fever restrictions applied to Mr. Parker's farms.

Mr. James Reid, M.R.C.V.S., of the Ministry of Agriculture, said he first went to Mr. Parker's farm on January 28th, 1935, and examined 17 or 18 dead pigs. He considered the cause of death was swine fever. Next day he went to Mr. Rowe's farm, where two pigs had died, and formed the same opinion.

Witness, cross-examined, agreed that it was very difficult to trace the origin of swine fever. The period of incubation was about five days, outward signs of infection might not be shown for ten days.

Professor George H. Wooldridge, of the Royal Veterinary College, London, gave detailed evidence as to swine fever. The germ, he said, had been isolated, but not visibly—it was too small. Deaths did not occur until after about 15 days' infection. The symptoms the witness Down had described were those definitely giving a suspicion of swine fever. An owner of pigs with cases of that nature recurring, even in the absence of deaths, should feel it his duty to report the fact to the authorities. The commonest means of conveyance of the disease was by an infected pig.

Cross-examined, witness agreed that there was a heavy fine for failure to report suspected swine fever. He added: "It would be very unwise not to report it, but it is often not done." No symptoms during life were definite enough to enable one to say clearly that a pig was suffering from swine fever; there must be a *post-mortem* examination.

Mr. Cassels for the defence, said that Mr. Parker farmed 14,000 acres in Norfolk and bred 20,000 pigs in the course of a year, besides many other animals. His piggeries were a model and his reputation stood as high as it was possible to be. Counsel would call the men in charge of each farm from which these pigs were taken —who would say that there was no such thing as the pigs dying in the way alleged; that there was no suspicion of swine fever, and that the pigs were strong, healthy and clean. How could the disease on Mr. Rowe's farm be attributed to Mr. Parker's pigs? It might be that the visit of Mr. Rowe to Mr. Parker's farms caused the outbreak there. It would be impossible for any seller to be able to give a guarantee that a pig was at the time of sale free from infection. Mr. Parker felt bound in defending this action to claim also that Mr. Rowe should pay damages for the slanderous statements he had made against him in the market places where he was known and where his reputation stood high.

Mr. S. E. Hill, veterinary surgeon to the King for the Sandringham Estate and for the Ministry of Agriculture, said he was employed by Mr. Parker for his farms. He was there on January 6th or 7th to attend to a cow and was not told anything about ailing pigs. On January 21st he was called to the Walley Farm to examine six dead suckling pigs. All had inflammation of the bowels. The following day he examined some more similar pigs and had others killed, but could not satisfy himself that the trouble was swine fever. On the 23rd he made another *post-mortem* examination and saw symptoms in one pig which made him suspect swine fever and he took the usual steps to notify the police and the Ministry of Agriculture. It was definitely decided that the trouble was swine fever on January 28th.

At this stage of the hearing the court adjourned.

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Cause of Sheep Scab Outbreak.—That as a result of a farmer's neglect sheep scab had broken out in both Leicestershire and Nottinghamshire was the statement made by the chairman of the Melton Bench, Mr. R. W. Brownlow, when a farmer, of Langar, Nottinghamshire, was fined £2 for procuring a breach of regulations as to the movement of sheep.

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Parasites, not Rubber Fumes, Kill Poultry.—"Fifty per cent. of the birds in Lancashire never reach the laying stage because of infestation

by parasites," said a veterinary surgeon witness during the hearing of a case at Liverpool County Court, in which a Liverpool poultry farmer, unsuccessfully claimed £95 damages, alleging that fumes from a rubber dump had caused 400 of his birds to die.

The professional witness said that the birds were suffering from heavy parasitic infestation: the fumes would not harm them.

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LORD HORDER ON "CLINICAL MEDICINE"

We reproduce the following passages from Lord Horder's farewell lecture delivered at St. Bartholemew's Hospital, and published in the January 25th issue of *The British Medical Journal*, as, to the high degree of professional interest they possess there is added the topical significance of the facts that not only does the lecture mark the close, on his reaching the age limit, of Lord Horder's memorable tenure of the post of physician on the staff of this great hospital, but that Lord Horder was physician of the new King when Prince of Wales and presumably will continue as his physician, *i.e.*, as King's Physician.

"Whatever may be the special branch of medicine that attracts us," said the lecturer, "it is commonly accepted that it is at the bedside where, on the one hand, the vital expressions of diseases are manifested, and where, on the other, the contributions made by the laboratory, both to diagnosis and to therapy, must eventually be tested. 'Les malades, toujours les malades.' But medicine provides such a large field for human interest and activity that there are many points at which a man may branch off into a whole life's work of relatively detached scientific effort. Any one of these digressions may take him so far away from the patient that, quite joyfully and quite successfully, he may make valuable contributions to what becomes, in effect, pure science. He may then be tempted to consider clinical medicine but a poor affair, scarcely worth the pursuit of a trained intelligence. Whereas I regard it as a very inviting field for the most highly cultivated minds—a field in which meagre achievement, far from indicating an essential poverty in the soil that is being tilled, signifies only that the husbandman is not always as alert and well equipped as he might be.

"In the view of some people the clinician has not advanced or developed proportionately with those of his colleagues who are primarily concerned with the ancillary subjects of surgical technique, bacteriology, and biochemistry. I cannot accept this estimate, and I think it is due to a false, or a forgotten, conception of the clinician's function. Though this remains what it fundamentally always was—the collection and evaluation of all available data which are pertinent to the diagnosis and the treatment of the sick person—I believe that the growth of the means by which this function is achieved has been even greater in the case of the clinician than in the case of any one of his colleagues; for the reason that the whole of their combined knowledge is available for him if he is familiar with it and cares to use it.

"In my own time I have witnessed three great advances in the science and art of clinical medicine, and how much the clinician is actually of greater service depends upon himself and the degree to which he has absorbed these advances and transmuted them into his practical work.

"The function of the old clinicians was not inaptly termed 'walking the wards,' an expression which has its modern counterpart in 'going round.' Our predecessors made large observations rather than small, and they acquired a facility in diagnosis and in prognosis which seemed to many quite uncanny. This facility was really due to the fact that they had trained themselves to make a greater number of observations than they were actually aware of. Their eyes and ears and touch and smell were unaided by instruments of precision, and the pitch of excellence to which their senses perforce—and at long last—arrived was very astonishing. But their exactness stopped short at the point where their unaided senses could pierce the mystery no further, and this in many cases was stopping too short to enable them to give the help which the patient needed. For example, septicæmia was only septicæmia, and heart disease, for the most part, was only heart disease.

"Then came the *first great advance*. With the increased frequency of, and greater thoroughness in, *post-mortem* examinations, the clinician began to 'think morbid anatomically.' This was a notable move forward. He was able to visualise the diseased organs as they actually existed during life, and this visualisation gave his clinical methods a clearer purpose and direction. This habit of correlation of the clinical features of the case with *post-mortem* experience remains, and must of necessity remain, one of the most valuable aids to diagnosis and prognosis. The clinician who relaxes in a punctilious attendance at the *post-mortems* upon his patients, or upon patients of his colleagues, thinking the time could be better spent in the wards or in the out-patient rooms, is not only denying himself the chief correction to his exuberance and to his vanity, he is departing from the bed-rock of medicine itself. What he says at the bedside may or may not be the truth; what he sees in the *post-mortem* room *is* the truth.

"The *second advance* came with the development of laboratory methods, since in these the clinician found new and invaluable aids to his work. The study of the patient *qua* patient was supplemented by the study of materials derived from the patient. Thus we saw the birth of clinical pathology. The past 30 years have witnessed this lusty babe grow up to a vigorous manhood. As is wont with the virile adolescent, there have been times when he thought himself more important than he really was, when he sought to bestride the whole world of medical knowledge, when he firmly believed he *was* medicine rather than merely making his contribution *to* medicine. His incursion into the sick-room was apt to be somewhat brusque, not to say at times truculent. Cuckoo-like, he jostled and pushed and ofttimes succeeded in ousting his more timid and gentle colleague from the latter's legitimate sphere. He took to describing himself in the telephone directory as 'physician,' and he invited the credulous sick to consult him. The public, with its child-like confidence in machinery, loved him, welcoming his advent as signalling the millenium of exact medicine, and unaware that the human brain is the best machine of all. A catalogue of the flora of the fauces and/or of the fæces, a complete blood count, a chemical analysis of the urine to the third place of decimals: 'what further may be sought for or declared?' Not only was the new gospel about to dispel the darkness that shrouded diagnosis, it was about to illumine the therapeutic field also. The 'opsonic index' for the exact diagnosis, the hypodermic syringe, charged with the appropriate antigen, for effective treatment, and medicine was 'taped' at last. The clinician came to be regarded by

some with amused tolerance; by others, even less generously minded, as obstructive to real progress. Nosology disappeared and pathology contracted down to the name of the infecting agent: patients no longer suffered from diseases but from micro-organisms. 'What is the matter with the man in Bed 4?" 'T.B.' . . .

"But fortunately for the patient, for whom, like the soul of Faustus, the powers of good and evil were fighting, some clinicians kept their heads. They absorbed what was good in these clinico-pathological advances, seeing in them important supplemental aids to their methods rather than a substitution for them. But the older and cruder notions of infection had to be entirely revised, and gaps in the knowledge of metabolism had to be filled. Not only was it necessary that the clinician should think morbid anatomically, it was necessary that he should think bacteriologically and biochemically also.

"Then came the *third great advance*, and by means of an entirely new tool. I refer to the arrival of roentgenology. Though useful from the first, it has taken a good many years to improve the technique and get the method under control, but to-day there is probably no more useful addition to the clinician's methods. The exercise of forbearance in interpretation on the diagnostic side and moderation in claims on the therapeutic side has become an important part of the clinician's work.

"I said just now that the fundamental function of the clinician is to collect and evaluate data. But what data? The clinician is not a *mere* collector of data. If he were, diagnosis would be as easy for one man as for another. It is the *essential* data that we want, not the unessential. It is data that are associated, not data that are dissociated. The capacity to neglect is as important as the capacity to take notice. True, the more obscure the case the less we can afford, in the first survey, to omit any examination; but after a time there comes what may seem to some an almost astounding negligence. This is not forgetfulness, nor a lapse from good methods: *it is the ability safely to omit.* Patients' dossiers are apt in these days to be so full and so heterogeneous that the courage to say of some of the reports, 'Noted, nothing doing,' is often the first step in the elucidation of the problem. It falls to the clinician alone to become familiar with the range of health, to be sensitive to what lies within it and to what lies outside it. The exercise of this sensitiveness in any particular case becomes more and more essential the more meticulously exact the reports of the experts may be. And these reports tend to be more and more meticulously exact with the increasing tendency to specialism and the myopia which goes with it.

"It has been during the recent period of intensive laboratory investigations on the clinico-pathological side of diagnosis that the notion has arisen that the clinician's observations are not really scientific, that they are of the nature of guesswork, whereas everything that happens in the laboratory is controlled by the infallible rules of logic. The test tube and the microscope cannot lie. But God alone knows if what the physician thinks is an enlarged spleen *is* the spleen; or if rose spots are not 'any old spots'; or the association of a soft and infrequent pulse with a continued high fever is not some odd trick of Nature designed to intrigue the curious-minded; and why should a week of intense headache pass away somewhat suddenly and be replaced by a muttering delirium; and an unexplained deafness appear? Funny things like these do happen to people who suffer from a disease of microbic origin. But the one certain thing is that the disease isn't typhoid fever or any infection in the T.A.B. group because there is no agglutination of the laboratory strains of those organisms by the patient's serum. Strange, this idea that facts have a different value according as they are observed at the bedside or in the laboratory. Stranger still, the idea that one negative observation in the laboratory should, by responsible clinicians, be regarded as more important than six positive observations at the bedside. 'We can never, by a single experiment, prove the non-existence of a supposed effect.' If 'science arises from the discovery of identity amidst diversity,' then it matters not if the identity be discovered by careful observation of the patient clinically or pathologically. The whole question is, Is it a *true* identity? But this, in the last resort, depends upon the critical judgement of the observer. Granted that the exercise of judgement at the bedside is more difficult than it is in the laboratory, mistakes in judgement are not confined to the bedside. We have only to send a specimen of the same stool to two, or even six, bacteriologists, equally expert, to find that failure to 'discover identity' is by no means only a bedside difficulty. Here the question of criteria is involved, as we know, and criteria are not always uniform even among laboratory workers. Their results are therefore, of necessity, not always comparable. Now the clinician's criteria are in general less exact than the pathologist's, nor can they be made so exact very easily; but if they are made severe, as they should be; if nothing is termed positive which is only doubtfully positive; if the clinician's judgement concerning his observations is controlled by reliable technique; if discovered identities are unequivocal: then his 'facts' are as scientific and as logical as are those of the pathologist. The truth is that clear thinking, with forbearance, is essential to the satisfactory solution of a diagnostic problem, whether the contribution comes from the laboratory or from the bedside.

"There is a technique of the mind as well as of the eye and of the hand, and the former is quite as essential as the latter. It is not only what you find *at* the bedside, it is also what you bring *to* the bedside. The eye sees what it takes with itself the power of seeing: it is the *mind* that sees. And surely it is the same in the laboratory? In both spheres there comes to some—slowly, painfully, towards the end (alas!)—facility born by patient practice out of time. Clinician and pathologist are more akin than they sometimes realise. Each of them takes a pride (which the other regards as excessive) in his small discoveries, and each of them lacks humility (or so the other thinks) in face of the certain fact that every day, whether it be in the ward or in the laboratory, momentous things are happening under their very eyes, yet they see them not, for they are both under the same ban—they cannot live out of their generation.

"If, looking back, I can feel satisfaction with any modest effort of my own in the diagnostic field, it is in opposing the tendency of the past two decades towards the divorce of clinical from laboratory methods. Time has not led me to change my view that the best help the clinician can give his pupils during the early part of their career is to insist that they use their words carefully, exactly, and without ambiguity. Next to this, but only by means of this, he can help them to think clearly. This is important, too, for as Thomas Hobbes said: 'As men abound in copiousnesse of language; so they

become more wise, or more mad than ordinary.' I may be forgiven for repeating myself and saying that the first textbook of medicine should be Jevons's *Primer of Logic*. It costs one shilling but is worth untold gold. Note-taking must never be scamped. What is written about the facts of a case demands the same care as what is said about them. If to these things can be added a thorough drilling in methods of clinical examination we have really accomplished a great deal in the first three months. Be it never forgotten that to watch the teacher's own methods is of greater help in the earlier stages of clerking than to try and understand what he is talking about. Efforts to teach medicine, however tempting, should be resisted. The keen student will teach himself medicine if he is properly trained in these important preliminaries."

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THE CONTROL OF VETERINARY MEDICINE IN FRANCE

A projected law concerning the practice of veterinary medicine has just been communicated to the Academy of Medicine previous to its submission to the French Chamber of Deputies by M. Cassez, a former Minister of Agriculture.

After a meeting of a committee of the Academy of Medicine presided over by Professor Barrier the Academy, in consideration of the immense influence the proper practice of veterinary medicine can have, not only upon animal husbandry but also upon the control of animal foodstuffs and the prophylaxis and control of microbial and parasitic diseases of animals transmissible to man, approved the recommendations of its committee and voted unanimously for the proposed law. This reads as follows:—

Article 1.—Only French citizens possessed of the degree of veterinary surgeon given by the French National Veterinary Schools or that of Doctor of Veterinary Medicine given by the Faculties of Medicine of Paris, Lyons or Toulouse are allowed to practise animal medicine, except for those mentioned in Article 6.

Article 2.—Veterinary surgeons or Doctors of Veterinary Medicine are the only persons to be employed by administrative or judicial authorities for all official duties within their competence.

Article 3.—Every veterinary surgeon or Doctor of Veterinary Medicine desiring to practice must register his qualifications within one month of his establishment at the prefecture of his *département* and at the Registry of the civil tribunal of his *arrondissement*. The fact of removing his domicile into another *département* necessitates a fresh registration as above.

Article 4.—A list of full names and addresses with the date and origin of any degrees of all veterinary surgeons and Doctors of Veterinary Medicine embraced by this law will be drawn up annually. This list will be publicly advertised in all *communes* of the *département*.

Article 5.—The practice of veterinary medicine will be illegal for all persons who habitually practise veterinary medicine or surgery with or without remuneration unless specifically listed according to the preceding article.

Article 6.—Persons who have treated animals for at least two years, and claim a licence to practise, are allowed to continue to do so for their lifetime, within legal limits. They should ask for the inscription of their names upon a special register at the prefecture of the *département* in which they reside. This list will be closed within two months of the passing of the present law. In case of litigation on the right of inscription as outlined above, the prefect will decide the case after consultation with a committee composed of a functionary of the prefectorial administration, the Director of Veterinary Services of the *département* and one elected member of the Chamber of Agriculture.

Article 7.—All infractions of the present law are punishable by fines of 500 to 1,000 francs. In the case of second offence the fines will be doubled and an imprisonment for three months may be pronounced.—*Le Siècle Médical.*

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MICROSCOPICAL CHARACTERS OF ENDOCRINE GLANDS

In a paper communicated to the last meeting of the American Association for the Advancement of Science, Heber W. Youngken reported the results of further studies upon the microscopy of powdered desiccated endocrine glands obtained from cattle and hogs and, in the case of thyroid and pituitary from sheep also, with a view toward providing microscopical standards for these products. The following summary of his conclusions is reproduced from *The Pharmaceutical Journal*:—

Thyroid.—The powdered desiccated gland may be identified by its smooth to striated, hyaline fragments of colloid, some of which contain granules, minute vacuoles, crystalloidal bodies and cells together with the numerous, irregular fragments of follicular epithelium, both of which stain brown with a mixture of Mallory's stain and 1 per cent. solution of phosphotungstic acid.

Suprarenal.—The powdered desiccated gland may be identified by its numerous, characteristically stellate to irregularly shaped chromophile (chromaffin) cells which take a brown coloration with chromic acid test solution, together with its characteristic cortical cells as examined in Delafield's hematoxyln and alcoholic eosin.

Pituitary.—The powdered desiccated whole gland may be identified by the numerous large, polyhedral or chromophile cells, which show a coarse granulation and a distinct affinity for acid stains, acid fuchsin colouring them a deep red; the presence of many chromophobe cells of more or less cubical, rounded or pyriform shape with few or no fine granules whose nuclei are coloured blue and cytoplasm a paler blue with either Delafield's hematoxylin or a mixture of eosin and methylene blue solution; the mossy neuroglia cells with their many, slender branching processes clearly visible in a mixture of 1 per cent. phosphotungstic acid and Delafield's hematoxylin and by the presence of bipolar nerve cells. Powdered desiccated anterior pituitary can be identified by the presence of characteristic chromophile and chromophobe cells and the absence of mossy neuroglia and bipolar nerve cells. Powdered desiccated posterior pituitary may be identified by the very numerous mossy neuroglia cells and bipolar and multipolar cells, and the absence of chromophile and chromophobe cells.

Ovary.—The powdered desiccated whole gland or "ovarian substance" is characterised by the presence of more or less distorted cubical to low columnar epithelial cells whose nuclei take a deep blue and cytoplasm a pale purple or pink colour with Delafield's hematoxylin; by the rounded to irregular masses consisting of primary oöcytes surrounded by connective tissue elements, the rounded to oval interstitial cells containing granules and fat droplets staining bright red with red acid dyes; the numerous fibroblasts with forked ends; the numerous lutein cells, often in masses, which appear yellowish in water mounts; together with an

abundance of dense connective tissue consisting mostly of narrow collagen fibres which swell and are coloured yellow in a mixture of 1 per cent. picric acid and 1 per cent. acetic acid solution. Powdered desiccated ovarian residue shows a similar microscopic picture to powdered desiccated whole ovary except for the almost complete absence of corpus luteum material.

Corpus Luteum.—Powdered desiccated corpus luteum is characterised by its numerous lutein cells, isolated or in masses, the individual cells, somewhat polyhedral with spheroidal central nucleus and numerous lutein granules and fat droplets, the groups of lutein cells intermingled with fine collagen fibres and appearing yellowish or greenish yellow in water mounts.

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

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THE ORGANISATION OF THE VETERINARY PROFESSION

To the Editor of The Veterinary Record

Sir,—The leading article in last week's *Veterinary Record* and the questionnaire relating to the above, make one wonder whether things are as serious as they are painted.

The question of whole-time *versus* part-time veterinary administration smoulders in the minds of some practitioners, and it is perhaps better that feelings should be expressed. It does seem a pity, however, to make matters personal by mentioning names in the discussion.

The points at issue are (1) what inroads into the work at present being done by the practitioner are going to be made by the whole-time official, and (2) can the practitioner be incorporated in a State service?

Some developments in the prevention of disease in the food supply as a result of the higher standard of living, are being allowed by the public purse. The application of scientific knowledge is providing work for the whole-time official under the Milk and Dairies legislation to obtain a wholesome milk supply, and we hope that the profession will not be ignored in any future legislation regarding meat inspection.

All fair-minded men in the profession want to find a solution to the problem of how the services of the profession can best be utilised. The trend of modern times is to nationalise services and that policy lends itself to the employment of whole-time staff. The N.V.M.A. Council, who represent or should represent all the various interests of its members, have this fact to face, because those who enter the whole-time service merely make it their choice of a career.

It would be interesting to know the views of some practitioners as to how they can prevent the employment of whole-time officers unless they prevent the development of progress in eliminating disease in the food supply. One might expect the reply that certain work should be left with the practitioners entirely, but it is argued that it is the public who benefit, and therefore the public should pay for these safeguards; thus public officials are employed in a whole-time capacity.

There is still a great field of work for the good practitioner who is content to get on with his job. If the whole-time officials are successful in developing work to such an extent that inroads into the practitioners' work are made, the part-time services of the practitioner will be necessary.

If the profession wants to form itself into a State service, why not recommend some form of animal insurance? The practitioners would then find that life would be less interesting in their public capacity, and that the whole-time official has to forego his freedom of action in place of having bad debts or other exigencies of practice.

The whole-time officer and the practitioner need confidence in each other and loyalty if they are to promote each other's interests.

Yours faithfully,

Wm. Tweed.

County Hall,
Taunton.
February 10th, 1935.

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CLEAVAGE?

To the Editor of The Veterinary Record

Sir,—It may be superfluous that I, as a student of veterinary politics, now devoid of any stake in the issue, should suggest to you the ominous and seeming inevitability, in the near future, of some degree of schism in the ranks of the veterinary profession in this country.

The voting power of the general practitioners, alike in election to the Council of the R.C.V.S. and the N.V.M.A., will as a result of effective propaganda operate, as they desire, to clear the decks of both ships of the existing remnants of whole-time officials unless it be, forsooth, that, through long-established familiarity with their presence, some degree of tolerance has been set up in the minds of the electorate for whole-time city officers as distinguished from the more recently arrived whole-time county officer. The "writing on the wall" is quite undisguised as revealed in many letters sent to you and in numerous reports of meetings of veterinary societies, all published in your columns week after week and exhibiting an ever increasing effervescence in determination not quite devoid of rancour.

One takes leave to credit your Council with some subconscious concern regarding the obvious power of this overwhelming and now organised caucus to make a cleavage in the profession. The report of your Council's meetings just published will also serve to give courage as heretofore to the great majority. It cannot be doubted that the minds of many whole-time officers are reacting to the needless, tactless acidity of much that you have been made to publish, and though they have not been asked to clear out of the N.V.M.A. fold which, incidentally, has received from them a greater "pro rata" support than from any other section of the profession, they feel they are being ostracised by their umquhile friends and are uncomfortable. If they are forced to secede, pursuant to the maintenance of their self-respect, and establish a new camp, "ichabod" in some measure will be applicable to the N.V.M.A.

The tolerance and helpfulness of the whole-time officers on your Council are worthy of remark and occasional absence from a committee meeting "points" their discomfort.

None could truly say that the existing and ever-increasing number of whole-time veterinary officers are lacking in the qualities that would

serve to make them a powerful and nationally useful organisation, capable of safeguarding their interests in all circumstances.

If what one fears desperately should eventuate, the next decade, for the profession, will be redolent of a pitiful regret that, in such a crisis, it lacked, in its leaders, the quality of statesmanship that would enable them, not merely to listen to the multitude and make promises, but to seek in the light of self-evident public opinion so to mould by speech and leaderette the very opinions of the electorate that their desires might be rendered sufficiently reasonable to merit acceptance.

It can surely never be a case of "*stat pro ratione voluntas.*"

Yours faithfully,

Hugh Begg.

Elm Lodge,
Hamilton.
February 3rd, 1936.

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TOLERANCE

To the Editor of The Veterinary Record

Sir,—The paramount needs in our profession to-day are reorganisation and co-operation. If the first is successfully undertaken, the second will follow as inevitably as day follows night. In the meantime, may I appeal for a spirit of tolerance.

As Hon. Secretary of the Society of Veterinary Practitioners I should like to associate myself with the views expressed in to-day's issue of *The Veterinary Record*, that the friction which some of us believe to exist to-day between various sections of our profession is largely due to faulty organisation and blame for this lies outside the profession. The friction chiefly arises from the overlapping of work, and the complete absence of any provision in any administrative scheme for co-operation between the various sections of the profession.

I should like to emphasise this and urge practitioners to keep this in mind when answering the questionnaire.

It cannot be stressed too often that the majority of veterinary practitioners have little or no quarrel with the whole-time veterinary officers, either individually or collectively—*there are, of course, exceptions*—their quarrel is with an administration which permits, and indeed, makes friction and unfairness inevitable.

My Society believes that if the profession was reorganised on the lines of the N.V.M.A. Scheme, mutual appreciation and co-operation would result.

Supervision is good for all of us, and it is in the interests of the profession and the public that there should be whole-time officers in each district to advise, supervise, and co-ordinate the efforts of all general practitioners; and further, that these officers should in turn be under supervision, and co-ordination of superiors. Only in this way can the present condition of unrest be overcome.

From recent correspondence appearing in your columns, it would appear that a considerable amount of confusion exists in the minds of certain members as to the functions of the respective committees of the R.C.V.S. and the N.V.M.A. I am in favour of the suggestion that candidates for election to the Council of the R.C.V.S. should be given an opportunity to issue an address to the electorate through *The Veterinary Record*, but let each candidate be sure that the matter contained in his appeal is relevant to the council to which he seeks election.

I also subscribe to the view that far too little attention is paid to the selection, and election, of members to serve on the Council of the N.V.M.A.—which Council, I submit, is far too large and unwieldy, though the membership of the "National" remains much too small!

Yours faithfully,

H. W. Steele Bodger (Hon. Secretary, Society of Veterinary Practitioners.)

28, Lichfield Street,
Tamworth,
Staffs.
February 8th, 1936.

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THE PROFESSION AND "THE ENCROACHMENTS OF BUREAUCRACY"

To the Editor of The Veterinary Record

Sir,—It might not be out of place to consider some of the major problems confronting the profession at this moment from a wider aspect than official reports denote them to have received. I refer to administrative changes foreshadowed by the Hopkins Committee, which seem likely to bring upon us a further influx of legislation with inroads upon the liberties of owners of livestock and a choice for veterinary surgeons of regimentation or starvation.

Discussion has focussed upon the question as to how far this regimentation is to extend into the ranks of the general practitioner. Officially it appears that whole-time men are in favour—*i.e.*, a practitioner doing certain work is not to be regarded as so efficient as the same man would be were he a member of a department and making a decision as an anonymous person on behalf of a Minister of the Crown.

To judge from the form in which so many bills are presented, it appears as if there is in existence a body of persons who, for some reason or another, are extremely anxious to put the best face upon the encroachments of bureaucracy. Speaking of the increasing mass of legislation, the Lord Chief Justice, in "New Despotism" says: "The reasonable citizen may well be tempted sometimes to ask the question, 'For whose benefit and at whose request is this mountain of statutes and this still greater mountain of rules, orders and regulations built up from year to year?' The conclusion is irresistible that it is manifestly the offspring of a well-thought-out plan, the object and the effect of which are to clothe the departments with despotic powers."

It is pathetic to think what little encouragement seems necessary to make our profession fall into this trap. In a recent issue you quote Sir Gowland Hopkins as having said: "Is the time yet ripe for the initiation of a comprehensive national food policy, one that will endeavour to adjust production, in a qualitative as well as a quantitative sense, to right consumption and at the same time organise *all the details of distribution* on national lines" (my italics). And Mr. Elliot, the Minister of Agriculture, is said to have told a continental reporter that Fascism has made greater strides in this country than most people realise, and that nobody minds what new things you introduce provided you call them by the old names.

A reviewer in this journal recently observed: "The production of milk presents no difficulty; the stumbling block is the *absence of buyers.*"

It has taken the united efforts of the Rowett Institute and the Market Supply Commission to

show that the consumption of milk, butter and eggs, etc., rises uniformly with income, and 20 million people in this country are unable to buy the maximum amount of these foods because *their incomes are too small.* Sir John Orr further states that agriculture *could* be developed (to an extent he outlined) without prejudicing our *overseas investments.* His cure is to inject money into certain departments who would then recompense farmers for selling at a loss. In this way veterinary surgeons would be dependent upon departments at one remove.

Speaking of these "details of distribution," the management of which has become a fine art in U.S.A., Major C. H. Douglas said in 1934: "Perhaps the most outstanding and possibly the final instance under an alleged democracy of this process can be witnessed at Washington at the present time, where may be found previously unemployed individuals expressly appointed and busy generally for 14 to 16 hours a day, in inquiring into how each separate trade and industry in the U.S.A. is run, and instructing the directors of businesses in that trade how to do it some other way from that which has up till now proved successful."

The remedy for economic veterinary troubles is the same as for every other profession, trade or industry, and that is a method of equating purses and prices of the community considered as a whole.

Yours faithfully,
W. Philipson Moss.

Sycamore House,
Chobham Road,
Woking.
February 4th, 1936.

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CALCIUM THERAPY IN "STAGGERS" IN THE BULLOCK

To the Editor of The Veterinary Record

Sir,—The communication by Mr. J. R. Sheehy on the treatment of a case of "staggers" in the bullock, which appears in your issue of February 8th at p. 147, is of distinct clinical interest.

During the last six years, I have received a number of reports from practitioners relating to the application of calcium therapy in so-called "staggers" in the bullock. In a number of these cases, the parenteral injection of calcium salts appeared to be quite valueless, but, in a considerable proportion of cases, the injection was followed by a rapid and complete curative response, such as that described by Sheehy. *A priori* it would, therefore, appear that many cases of "staggers" in cattle have their immediate cause in an acute hypocalcæmia, but precise information upon the pathology of the condition is still required.

I would, therefore, take this opportunity of appealing to practitioners to send to this Institute samples of blood from cases of "staggers" in cattle. The blood should be drawn from the jugular vein immediately before the application of treatment. The amount of blood required is about 25 c.c. This should be drawn into a clean, dry—but not necessarily sterile—bottle and allowed to clot naturally.

Yours faithfully,
J. Russell Greig.

Animal Diseases Research Association,
Moredun Institute,
Gilmerton,
Midlothian.
February 8th, 1936.

The Editor acknowledges, with thanks, the receipt of the following:—

Communications from Messrs. E. Brown (Dawlish), E. F. Peck (British Somaliland), T. Roger Thomas (Carmarthen), Colonel G. K. Walker (Abingdon) and Dr. T. P. White (London).

Reports of meetings of the following Divisions, N.V.M.A., from the respective Hon. Secretaries: Lancashire, Southern Counties and Yorkshire; also report of a General Meeting of the Scottish Branch.

Diseases of Animals Acts

SUMMARY OF RETURNS

Period.	Anthrax.		Foot-and-Mouth Disease.		Parasitic§ Mange.		Sheep Scab.	Swine Fever.	
	Outbreaks confirmed.	Animals attacked.	Outbreaks confirmed.	Animals slaughtered as diseased or exposed to infection.	Outbreaks reported by the Local Authorities.	Animals attacked.	Outbreaks confirmed.	Outbreaks confirmed.	Swine slaughtered.
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Period 16th to 31st Jan., 1936	20	40	2	37	7	13	24	106	46
Corresponding period in									
1935	19	21	16	3,834	11	11	37	80	26
1934	18	18	—	—	20	31	75	111	72
1933	28	35	10	1,373	17	29	32	34	3
Total 1st January to 31st Jan., 1936	46	67	4	389	16	27	61	213	103
Corresponding period in									
1935	37	40	17	3,914	26	33	83	143	50
1934	30	30	—	—	34	56	162	174	99
1933	39	48	30	2,715	30	56	80	65	7

Note.—The figures for the current year are approximate only.

§ Excluding outbreaks in Army Horses.